

# TEACHERS' RETIREMENT SYSTEM OF THE STATE OF KENTUCKY

## Financial Statements June 30, 2022 and 2021

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## Report of Independent Auditors

To the Board of Trustees  
Teachers' Retirement System of the State of Kentucky  
Frankfort, Kentucky

### Report on the Audit of Financial Statements

#### *Opinion*

We have audited the accompanying financial statements of Teachers' Retirement System of the State of Kentucky (TRS), a component unit of the Commonwealth of Kentucky, as of and for the years ended June 30, 2022 and 2021, and the related notes to the financial statements, which comprise the TRS's financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects the fiduciary net position of TRS, as of June 30, 2022 and 2021, and the respective changes in fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

#### *Basis for Opinion*

We conducted our audits in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of TRS and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### *Responsibilities of Management for the Financial Statements*

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about TRS's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

### *Auditor's Responsibilities for the Audit of the Financial Statements*

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgement made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgement and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of TRS's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgement, there are conditions or events, considered in the aggregate, that raise substantial doubt about TRS's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

### *Required Supplementary Information*

Accounting principles generally accepted in the United States of America require that management's discussion and analysis on pages 5 through 9, and the defined benefit pension plan and other postemployment benefit plan supplemental schedules on pages 62 through 72, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audits of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

### *Other Information*

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise TRS's basic financial statements. The additional supporting schedules (pages 73 through 75) are presented for purposes of additional analysis and are not a required part of the basic financial statements. The Schedule of Administrative Expenses, Schedule of Professional Services and Contracts, and Schedule of Contracted Investment Management Expenses are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audits of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Schedule of Administrative Expenses, Schedule of Professional Services, and Schedule of Contracted Investment Management Expenses are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

### Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated November 14, 2022, on our consideration of TRS's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of TRS's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering TRS's internal control over financial reporting and compliance.

*Blue & Co., LLC*

Lexington, Kentucky  
November 14, 2022

## Teachers' Retirement System of the State of Kentucky Management's Discussion and Analysis

This discussion and analysis of the financial performance of Teachers' Retirement System of the State of Kentucky (TRS or system) provides an overview of the Retirement Annuity Trust, the Health Insurance Trust and the Life Insurance Trust for the fiscal years ended June 30, 2022, and 2021. It should be read in conjunction with the respective financial statements, which begin on page 10. TRS is the fiduciary of funds held in trust for its members.

### Using This Financial Report

Because of the long-term nature of the retirement annuity, health insurance and life insurance trusts, financial statements alone do not provide the complete scope of TRS. The notes, required supplemental information, supporting schedules complete that scope.

Information about the activities of the retirement annuity, health insurance and life insurance trusts and the 403(b) Tax-Sheltered Trust as a whole is provided in the Statement of Fiduciary Net Position and Statement of Changes in Fiduciary Net Position (on pages 10-13). The Notes to the Financial Statements are an essential part of the basic financial statements. They provide important background and detailed information about TRS, the plan and the basic financial statements themselves.

The Required Supplementary Information includes historical trend information about the funded status of the retirement annuity, health insurance and life insurance trusts presented as required by accounting standards. The Schedules of Employer Contributions present historical trend information about the required contributions of employers and the contributions made by employers in relation to the requirement. These schedules provide information that contributes to understanding the changes over time in the funded status of the plans. Separate reports prepared by the actuary using a board-adopted funding policy provide a long-term, ongoing plan perspective and the progress made in accumulating sufficient assets to pay benefits and insurance premiums when due.

### Teachers' Retirement System as a Whole

In the fiscal year ended June 30, 2022, the system's combined fiduciary net position decreased by \$3 billion — from \$28.3 billion in 2021 to \$25.3 billion in 2022. In 2020, the combined net position totaled \$22.4 billion. The following summaries focus on the fiduciary net position and changes in fiduciary net position of TRS's retirement annuity, health insurance and life insurance trusts.

#### Summary of Fiduciary Net Position (In millions)

	Retirement Annuity Trust			Health Insurance Trust			Life Insurance Trust		
	2022	2021	2020	2022	2021	2020	2022	2021	2020
<b>Assets</b>									
Cash and investments	\$ 22,846.5	\$ 25,879.0	\$ 20,680.9	\$ 2,229.8	\$ 2,288.2	\$ 1,587.6	\$ 88.3	\$ 107.2	\$ 87.1
Receivables	122.8	157.8	113.8	57.8	54.7	61.1	0.3	0.4	0.5
Capital assets	9.3	10.3	12.1						
<b>Total assets</b>	<b>22,978.6</b>	<b>26,047.1</b>	<b>20,806.8</b>	<b>2,287.6</b>	<b>2,342.9</b>	<b>1,648.7</b>	<b>88.6</b>	<b>107.6</b>	<b>87.6</b>
<b>Liabilities</b>	<b>(78.6)</b>	<b>(111.3)</b>	<b>(89.8)</b>	<b>(18.5)</b>	<b>(42.4)</b>	<b>(32.0)</b>	<b>(0.2)</b>	<b>(0.2)</b>	<b>(0.1)</b>
<b>Net position</b>	<b>\$ 22,900.0</b>	<b>\$ 25,935.8</b>	<b>\$ 20,717.0</b>	<b>\$ 2,269.1</b>	<b>\$ 2,300.5</b>	<b>\$ 1,616.7</b>	<b>\$ 88.4</b>	<b>\$ 107.4</b>	<b>\$ 87.4</b>

**Teachers' Retirement System of the State of Kentucky  
Management's Discussion and Analysis (Continued)**

**Trust Totals\* \*\***

*(In millions)*

	<b>2022</b>	<b>2021</b>	<b>2020</b>
<b>Assets</b>			
Cash and investments	\$ 25,164.6	\$ 28,274.4	\$ 22,355.5
Receivables	180.9	212.9	175.4
Capital Assets	9.3	10.3	12.1
<b>Total assets</b>	<u>25,354.8</u>	<u>28,497.5</u>	<u>22,543.0</u>
<b>Liabilities</b>	<u>(97.3)</u>	<u>(153.8)</u>	<u>(122.0)</u>
<b>Net position</b>	<u>\$ 25,257.5</u>	<u>\$ 28,343.7</u>	<u>\$ 22,421.0</u>

\*Trust Totals excludes Other Funds, which consists of the 403(b) Tax-Sheltered Trust, the Supplemental Benefit Fund and the Losey Scholarship Fund. Other Funds had a combined fiduciary net position of \$1.1 million for 2022, \$1.4 million for 2021 and \$1.1 million for 2020.

\*\*Amounts above may not agree to the financial statements due to rounding.

The fiduciary net position of the Retirement Annuity Trust decreased by 11.7% (\$22.9 billion compared to \$25.9 billion in 2021). The fiduciary net position in 2020 was \$20.7 billion. The decrease was primarily due to unfavorable market conditions. Net investment income was approximately a negative \$2.7 billion in 2022 versus a positive \$6 billion in 2021. This compares to a positive \$1.1 billion in 2020.

The fiduciary net position of the Health Insurance Trust remained relatively unchanged (\$2.27 billion compared to \$2.30 billion in 2021) primarily due to investment income and contributions from members and employers being near the amount of insurance benefits paid out of the trust. This compares to 2020 when fiduciary net position was \$1.6 billion.

The Summary of Changes in Fiduciary Net Position is presented below followed by discussion of the activities within the different trusts.

**Teachers' Retirement System of the State of Kentucky  
Management's Discussion and Analysis (Continued)**

**Summary of Changes in Fiduciary Net Position**

(In millions)

	Retirement Annuity Trust			Health Insurance Trust			Life Insurance Trust		
	2022	2021	2020	2022	2021	2020	2022	2021	2020
<b>Additions</b>									
Member contributions	\$ 357.0	\$ 327.8	\$ 324.7	\$ 145.7	\$ 128.1	\$ 133.6	\$	\$	\$
Employer contributions	1,679.6	1,147.0	1,134.3	151.7	184.9	184.6	2.8	2.1	1.8
Net investment increase (decrease)	(2,727.8)	6,017.2	1,094.0	(219.5)	503.2	32.5	(15.6)	24.1	5.2
<b>Total additions</b>	(691.2)	7,492.0	2,553.0	77.9	816.2	350.7	(12.8)	26.2	7.0
<b>Deductions</b>									
Benefit payments	2,305.9	2,235.2	2,167.2				6.2	6.1	5.4
Refunds	26.7	25.4	28.5						
Administrative expense	12.0	12.6	12.2	2.1	1.7	2.0			
Insurance expenses				107.2	130.7	146.0			
<b>Total deductions</b>	2,344.6	2,273.2	2,207.9	109.3	132.4	148.0	6.2	6.1	5.4
<b>Net increase (decrease)</b>	<b>\$(3,035.8)</b>	<b>\$5,218.8</b>	<b>\$ 345.1</b>	<b>\$ (31.4)</b>	<b>\$ 683.8</b>	<b>\$ 202.7</b>	<b>\$(19.0)</b>	<b>\$ 20.1</b>	<b>\$ 1.6</b>

**Trust Totals\* \*\***

(In millions)

	2022	2021	2020
<b>Additions</b>			
Member contributions	\$ 502.7	\$ 456.0	\$ 458.3
Employer contributions	1,834.1	1,334.0	1,320.7
Net investment increase (decrease)	(2,962.9)	6,544.5	1,131.7
<b>Total additions</b>	(626.1)	8,334.5	2,910.7
<b>Deductions</b>			
Benefit payments	2,312.1	2,241.4	2,172.6
Refunds	26.7	25.4	28.5
Administrative expense	14.1	14.4	14.2
Insurance expenses	107.2	130.7	146.0
<b>Total deductions</b>	2,460.1	2,411.8	2,361.3
<b>Net increase (decrease)</b>	<b>\$(3,086.2)</b>	<b>\$5,922.7</b>	<b>\$ 549.4</b>

\*Trust Totals excludes Other Funds, which consists of the 403(b) Tax-Sheltered Trust, the Supplemental Benefit Fund and the Losey Scholarship Fund.

\*\*Amounts above may not agree to the financial statements due to rounding.

## **Teachers' Retirement System of the State of Kentucky Management's Discussion and Analysis (Continued)**

### **Retirement Annuity Trust Activities**

Retirement contributions are calculated by applying a percentage factor to salary with member and employer contributions withheld from each pay check. Members also may pay contributions to repurchase previously refunded service credit or to purchase various types of elective service credit.

In 2022, employer contributions totaled \$1.68 billion, a net increase of \$533 million from the prior fiscal year. The increase was due to employer contributions paid by the state being more than the prior year. In 2021, employer contributions increased \$13 million compared to 2020 primarily due to amounts received from the state.

The Retirement Annuity Trust experienced net investment loss of \$2.73 billion in 2022 and net investment income of \$6.02 billion for 2021. For 2020, net investment income totaled \$1.09 billion. The decrease in net investment income are due to unfavorable market conditions. Increases in deductions of \$71.4 million in 2022 and \$65 million in 2021 can be attributed to increases in the number of benefit recipients. Members and beneficiaries on the retiree payroll as of June 30, 2022, remained level compared to a prior year increase of 1,852.

### **Other Postemployment Benefit (OPEB) Activities**

During 2022, the Health Insurance Trust member contributions increased \$17.6 million from 2021, after decreasing \$5 million from 2020, due to an increase in member's salaries paid from federal assistance received by the local school district employers. Also, during 2022, employer contributions decreased \$33.2 million from 2021 and remained level from 2020 due to less funding received from the state.

In 2022, the Health Insurance Trust experienced net investment loss of \$219.5 million compared to the previous year gain of \$503.2 million net investment income. For 2020, net investment income totaled \$32.5 million. The decrease in net investment income is due to unfavorable market conditions.

The Life Insurance Trust experienced net investment loss of \$15.6 million in 2022, net investment income of \$24.1 million in 2021 and \$5.2 million in 2020. Life insurance benefits paid for 2022, 2021 and 2020 were \$6.2 million, \$6.1 million and \$5.4 million respectively.

### **Funding**

For the 2020-2022 biennium, the state budgeted \$1.13 billion of additional employer contributions for the unfunded liability of the Retirement Annuity Trust. The plan fiduciary net position as a percentage of total pension liability measured in accordance with Governmental Accounting Standards Board (GASB) Statement No. 67 was 56.4% as of June 30, 2022, compared to 2021's 65.6%. The separately issued actuary's valuation shows progress of the trust's funded status over the amortization period set by the board funding policy. The additional funding provided in the budget resulted in 100% of the actuarially determined employer contribution (ADEC) being made for 2022 and 2021. Assuming that contributions to the retirement trust are made by the state from year to year in the future as recommended by the actuary, TRS should have sufficient assets to provide all benefits due as defined by law to members.

The funding of the health insurance and life insurance trusts is presented in notes 8 and 9 of these financial statements and the Required Supplementary Information in accordance with GASB Statement No. 74. Although the Health Insurance Trust continues to have a large net OPEB liability, current obligations are being met by current funding. The Shared Responsibility solution enacted in 2010 continues to prefund retiree health benefits. The Schedule of Employer Contributions presented in the Required Supplementary Information provides the ADEC of the health and life insurance trusts.



## **Teachers' Retirement System of the State of Kentucky Management's Discussion and Analysis (Continued)**

### **Historical Trends**

Accounting standards require that the Statement of Fiduciary Net Position presents assets at fair value; include only benefits and refunds due to plan members and beneficiaries. The standards also require presenting accrued investment and administrative expenses as of the reporting date. Detailed information regarding the funded status — including the key actuarial assumptions, target allocations and the sensitivity of the discount rate — can be found for the Retirement Annuity Trust in Note 4 of the financial statements, for the Health Insurance Trust in Note 8 and for the Life Insurance Trust in Note 9. The schedules of employer contributions are provided in the Required Supplementary Information.

TRS's independent consulting actuaries are members of the American Academy of Actuaries and experienced in performing valuations for public retirement systems. As mandated by state law, the valuations of the retirement annuity and health insurance trusts are prepared in accordance with principles of practice prescribed by the Actuarial Standards Board consistent with accepted actuarial procedures. Actuarial assumptions used in the valuations are internally consistent and reasonable based on the actual experience of the trusts. An actuarial audit was completed in 2015, which confirmed the accuracy of actuarial procedures and the reasonableness of assumptions. A five-year experience study was completed in 2021, which also confirmed the reasonableness of assumptions based upon the actual experience of the trusts. The actuarial assumptions may be reasonably relied upon as reflected in the results.

This financial report is designed to provide citizens, participating employers, plan members and other users with an overview of TRS's fiscal practices. Direct questions or requests for additional information to TRS Chief Financial Officer Mark Whelan.

**Teachers' Retirement System of the State of Kentucky**  
**Statement of Fiduciary Net Position**  
**As of June 30, 2022**

	Retirement Annuity Trust	Health Insurance Trust	Life Insurance Trust	Other Funds	Total
<b>Assets</b>					
<b>Cash</b>	\$ 420,633,131	\$ 196,003,638	\$ 392,044	\$ 110,373	\$ 617,139,186
<b>Prepaid expenses</b>	28,458				28,458
<b>Receivables</b>					
Contributions	50,526,572	14,111,640	54,426		64,692,638
Due from other trusts	5,964,535				5,964,535
Investment income	49,654,767	3,099,024	290,175	3,160	53,047,126
Investment sales receivable	16,636,770	3,270,138	1,206		19,908,114
Other receivables	53,073	37,312,574			37,365,647
<b>Total receivables</b>	122,835,717	57,793,376	345,807	3,160	180,978,060
<b>Investments at fair value</b>					
Short-term investments	1,018,196,544	67,213,821	8,345,378	347,626	1,094,103,369
Fixed income	3,244,560,222	144,284,024	17,872,069	236,796	3,406,953,111
Equities	12,267,081,370	1,095,262,160	48,063,588	421,988	13,410,829,106
Alternative investments	2,292,264,807	204,919,107	3,283,908		2,500,467,822
Real estate	1,693,627,935	150,214,503	7,489,602		1,851,332,040
Additional categories	1,910,112,687	371,942,317	2,811,693		2,284,866,697
<b>Total investments</b>	22,425,843,565	2,033,835,932	87,866,238	1,006,410	24,548,552,145
<b>Capital assets</b>	27,905,021				27,905,021
Accumulated depreciation	(18,649,040)				(18,649,040)
<b>Net capital assets</b>	9,255,981				9,255,981
<b>Total assets</b>	22,978,596,852	2,287,632,946	88,604,089	1,119,943	25,355,953,830
<b>Liabilities</b>					
Accrued expenses and other liabilities	2,713,542	5,769,356	49,319		8,532,217
Due to other trusts		5,849,473	111,477	3,585	5,964,535
State of Kentucky	26,943,547	119,901	62,105		27,125,553
Investment purchases payable	48,987,393	6,718,527	685		55,706,605
<b>Total liabilities</b>	78,644,482	18,457,257	223,586	3,585	97,328,910
<b>Net position restricted for pension and other postemployment benefits</b>	<u>\$ 22,899,952,370</u>	<u>\$ 2,269,175,689</u>	<u>\$ 88,380,503</u>	<u>\$ 1,116,358</u>	<u>\$ 25,258,624,920</u>

The Combining Statement of Fiduciary Net Position — Other Funds is presented on page 14.

The accompanying notes are an integral part of these financial statements.

**Teachers' Retirement System of the State of Kentucky**  
**Statement of Fiduciary Net Position**  
**As of June 30, 2021**

	<b>Retirement Annuity Trust</b>	<b>Health Insurance Trust</b>	<b>Life Insurance Trust</b>	<b>Other Funds</b>	<b>Total</b>
<b>Assets</b>					
<b>Cash</b>	\$ 150,522,508	\$ 68,774,604	\$ 274,743	\$ 253,916	\$ 219,825,771
<b>Prepaid expenses</b>	32,939				32,939
<b>Receivables</b>					
Contributions	49,630,590	10,344,680	47,267		60,022,537
Due from other trusts	3,848,215				3,848,215
State of Kentucky			81,540		81,540
Investment income	45,254,996	3,441,069	263,725	2,645	48,962,435
Investment sales receivable	58,963,007	2,949,484	13,985		61,926,476
Other receivables	85,219	37,947,151			38,032,370
<b>Total receivables</b>	<u>157,782,027</u>	<u>54,682,384</u>	<u>406,517</u>	<u>2,645</u>	<u>212,873,573</u>
<b>Investments at fair value</b>					
Short-term investments	1,065,314,674	157,506,899	9,405,976	349,252	1,232,576,801
Fixed income	3,627,641,860	155,171,801	20,043,254	279,516	3,803,136,431
Equities	16,068,066,132	1,274,610,864	68,281,332	482,531	17,411,440,859
Alternative investments	1,758,133,237	170,660,050	1,420,801		1,930,214,088
Real estate	1,405,889,580	111,459,521	5,181,114		1,522,530,215
Additional categories	1,803,453,179	349,991,171	2,549,353		2,155,993,703
<b>Total investments</b>	<u>25,728,498,662</u>	<u>2,219,400,306</u>	<u>106,881,830</u>	<u>1,111,299</u>	<u>28,055,892,097</u>
Capital assets	26,723,964				26,723,964
Accumulated depreciation	(16,468,039)				(16,468,039)
Net capital assets	<u>10,255,925</u>				<u>10,255,925</u>
<b>Total assets</b>	<u>26,047,092,061</u>	<u>2,342,857,294</u>	<u>107,563,090</u>	<u>1,367,860</u>	<u>28,498,880,305</u>
<b>Liabilities</b>					
Accrued expenses and other liabilities	2,674,134	7,472,716	52,157		10,199,007
Due to other trusts		3,775,245	70,478	2,492	3,848,215
State of Kentucky	12,649,201	22,741,764			35,390,965
Investment purchases payable	95,989,520	8,363,153	13,539		104,366,212
<b>Total liabilities</b>	<u>111,312,855</u>	<u>42,352,878</u>	<u>136,174</u>	<u>2,492</u>	<u>153,804,399</u>
<b>Net position restricted for pension and other postemployment benefits</b>					
	<u>\$ 25,935,779,206</u>	<u>\$ 2,300,504,416</u>	<u>\$ 107,426,916</u>	<u>\$ 1,365,368</u>	<u>\$ 28,345,075,906</u>

The Combining Statement of Fiduciary Net Position — Other Funds is presented on page 14.  
The accompanying notes are an integral part of these financial statements.

**Teachers' Retirement System of the State of Kentucky**  
**Statement of Changes in Fiduciary Net Position**  
**For the Year Ended June 30, 2022**

	Retirement Annuity Trust	Health Insurance Trust	Life Insurance Trust	Other Funds	Total
<b>Additions</b>					
<b>Contributions</b>					
State of Kentucky	\$ 1,570,117,663	\$ 31,349,388	\$ 2,194,049	\$	\$ 1,603,661,100
Other employers	109,467,006	120,415,757	560,814	2,281	230,445,858
Members	356,966,620	145,681,855			502,648,475
<b>Total contributions</b>	<b>2,036,551,289</b>	<b>297,447,000</b>	<b>2,754,863</b>	<b>2,281</b>	<b>2,336,755,433</b>
<b>Investment income (loss)</b>					
Net appreciation (depreciation) in fair value of investments	(3,087,370,553)	(232,131,186)	(16,493,405)	(103,264)	(3,336,098,408)
Interest	152,692,923	16,095,897	616,005	9,830	169,414,655
Dividends	250,357,857	3,035,184	727,170	7,309	254,127,520
Rental income, net	16,230,826				16,230,826
Securities lending, gross earnings	4,028,545		90,539	1,182	4,120,266
<b>Gross investment income (loss)</b>	<b>(2,664,060,402)</b>	<b>(213,000,105)</b>	<b>(15,059,691)</b>	<b>(84,943)</b>	<b>(2,892,205,141)</b>
Less: investment expense	(63,972,448)	(6,499,956)	(502,071)		(70,974,475)
Less: securities lending expense	257,795		(20,515)	(592)	236,688
<b>Net investment income (loss)</b>	<b>(2,727,775,055)</b>	<b>(219,500,061)</b>	<b>(15,582,277)</b>	<b>(85,535)</b>	<b>(2,962,942,928)</b>
<b>Total additions</b>	<b>(691,223,766)</b>	<b>77,946,939</b>	<b>(12,827,414)</b>	<b>(83,254)</b>	<b>(626,187,495)</b>
<b>Deductions</b>					
Benefits	2,305,852,772		6,178,000	164,663	2,312,195,435
Refunds of contributions	26,745,203				26,745,203
Insurance expenses		107,201,439			107,201,439
Administrative expense	12,005,095	2,074,227	40,999	1,093	14,121,414
<b>Total deductions</b>	<b>2,344,603,070</b>	<b>109,275,666</b>	<b>6,218,999</b>	<b>165,756</b>	<b>2,460,263,491</b>
<b>Net increase (decrease)</b>	<b>(3,035,826,836)</b>	<b>(31,328,727)</b>	<b>(19,046,413)</b>	<b>(249,010)</b>	<b>(3,086,450,986)</b>
<b>Net position restricted for pension and other postemployment benefits</b>					
<b>Beginning of year</b>	<b>25,935,779,206</b>	<b>2,300,504,416</b>	<b>107,426,916</b>	<b>1,365,368</b>	<b>28,345,075,906</b>
<b>End of year</b>	<b>\$22,899,952,370</b>	<b>\$2,269,175,689</b>	<b>\$ 88,380,503</b>	<b>\$ 1,116,358</b>	<b>\$25,258,624,920</b>

The Combining Statement of Changes in Fiduciary Net Position — Other Funds is presented on page 15.

The accompanying notes are an integral part of these financial statements.

**Teachers' Retirement System of the State of Kentucky**  
**Statement of Changes in Fiduciary Net Position**  
**For the Year Ended June 30, 2021**

	Retirement Annuity Trust	Health Insurance Trust	Life Insurance Trust	Other Funds	Total
<b>Additions</b>					
<b>Contributions</b>					
State of Kentucky	\$ 1,060,257,414	\$ 78,216,742	\$ 1,852,447	\$	\$ 1,140,326,603
Other employers	86,720,255	106,670,323	285,928	365,866	194,042,372
Members	327,833,177	128,117,484			455,950,661
<b>Total contributions</b>	<b>1,474,810,846</b>	<b>313,004,549</b>	<b>2,138,375</b>	<b>365,866</b>	<b>1,790,319,636</b>
<b>Investment income (loss)</b>					
Net appreciation (depreciation) in fair value of investments	5,763,623,980	496,454,659	23,335,722	97,882	6,283,512,243
Interest	92,226,068	3,798,719	485,596	9,547	96,519,930
Dividends	208,073,365	9,586,461	583,808	6,489	218,250,123
Rental income, net	21,821,971				21,821,971
Securities lending, gross earnings	2,374,679		54,130	677	2,429,486
<b>Gross investment income (loss)</b>	<b>6,088,120,063</b>	<b>509,839,839</b>	<b>24,459,256</b>	<b>114,595</b>	<b>6,622,533,753</b>
Less: investment expense	(71,312,772)	(6,639,090)	(382,006)		(78,333,868)
Less: securities lending expense	377,020		(2,102)	13	374,931
<b>Net investment income (loss)</b>	<b>6,017,184,311</b>	<b>503,200,749</b>	<b>24,075,148</b>	<b>114,608</b>	<b>6,544,574,816</b>
<b>Total additions</b>	<b>7,491,995,157</b>	<b>816,205,298</b>	<b>26,213,523</b>	<b>480,474</b>	<b>8,334,894,452</b>
<b>Deductions</b>					
Benefits	2,235,240,616		6,120,000	166,555	2,241,527,171
Refunds of contributions	25,373,818				25,373,818
Insurance expenses		130,648,134			130,648,134
Administrative expense	12,601,841	1,728,008	34,498	939	14,365,286
<b>Total deductions</b>	<b>2,273,216,275</b>	<b>132,376,142</b>	<b>6,154,498</b>	<b>167,494</b>	<b>2,411,914,409</b>
<b>Net increase (decrease)</b>	<b>5,218,778,882</b>	<b>683,829,156</b>	<b>20,059,025</b>	<b>312,980</b>	<b>5,922,980,043</b>
<b>Net position restricted for pension and other postemployment benefits</b>					
<b>Beginning of year</b>	<b>20,717,000,324</b>	<b>1,616,675,260</b>	<b>87,367,891</b>	<b>1,052,388</b>	<b>22,422,095,863</b>
<b>End of year</b>	<b>\$25,935,779,206</b>	<b>\$2,300,504,416</b>	<b>\$ 107,426,916</b>	<b>\$ 1,365,368</b>	<b>\$28,345,075,906</b>

The Combining Statement of Changes in Fiduciary Net Position — Other Funds is presented on page 16.

The accompanying notes are an integral part of these financial statements.

## Teachers' Retirement System of the State of Kentucky

### Combining Statement of Fiduciary Net Position — Other Funds As of June 30, 2022

	403(b) Tax- Sheltered Trust	Supplemental Benefit Fund	Losey Scholarship Fund	Total
<b>Assets</b>				
Cash	\$	\$ 110,373	\$	\$ 110,373
<b>Receivables</b>				
Investment income	259		2,901	3,160
<b>Investments at fair value</b>				
Short-term investments	303,859		43,767	347,626
Fixed income			236,796	236,796
Equities			421,988	421,988
<b>Total investments</b>	<u>303,859</u>		<u>702,551</u>	<u>1,006,410</u>
<b>Total assets</b>	<u>304,118</u>	<u>110,373</u>	<u>705,452</u>	<u>1,119,943</u>
<b>Liabilities</b>				
Due to other trusts	<u>70</u>	<u>3,172</u>	<u>343</u>	<u>3,585</u>
<b>Total liabilities</b>	<u>70</u>	<u>3,172</u>	<u>343</u>	<u>3,585</u>
<b>Net position restricted for pension and other postemployment benefits</b>	<u>\$ 304,048</u>	<u>\$ 107,201</u>	<u>\$ 705,109</u>	<u>\$ 1,116,358</u>

### Combining Statement of Fiduciary Net Position — Other Funds As of June 30, 2021

	403(b) Tax- Sheltered Trust	Supplemental Benefit Fund	Losey Scholarship Fund	Total
<b>Assets</b>				
Cash	\$	\$ 253,916	\$	\$ 253,916
<b>Receivables</b>				
Investment income	7		2,638	2,645
<b>Investments at fair value</b>				
Short-term investments	306,484		42,768	349,252
Fixed income			279,516	279,516
Equities			482,531	482,531
<b>Total investments</b>	<u>306,484</u>		<u>804,815</u>	<u>1,111,299</u>
<b>Total assets</b>	<u>306,491</u>	<u>253,916</u>	<u>807,453</u>	<u>1,367,860</u>
<b>Liabilities</b>				
Due to other trusts	<u>50</u>	<u>2,219</u>	<u>223</u>	<u>2,492</u>
<b>Total liabilities</b>	<u>50</u>	<u>2,219</u>	<u>223</u>	<u>2,492</u>
<b>Net position restricted for pension and other postemployment benefits</b>	<u>\$ 306,441</u>	<u>\$ 251,697</u>	<u>\$ 807,230</u>	<u>\$ 1,365,368</u>

The accompanying notes are an integral part of these financial statements.

**Teachers' Retirement System of the State of Kentucky**  
**Combining Statement of Changes in Fiduciary Net Position — Other Funds**  
**For the Year Ended June 30, 2022**

	403(b) Tax- Sheltered Trust	Supplemental Benefit Fund	Losey Scholarship Fund	Total
<b>Additions</b>				
<b>Contributions</b>				
Other employers	\$	\$	\$ 2,281	\$ 2,281
<b>Investment income (loss)</b>				
Net appreciation in fair value of investments			(103,264)	(103,264)
Interest	564	183	9,083	9,830
Dividends			7,309	7,309
Securities lending, gross			1,182	1,182
<b>Gross investment income (loss)</b>	564	183	(85,690)	(84,943)
Less: securities lending expense			(592)	(592)
<b>Net investment income (loss)</b>	564	183	(86,282)	(85,535)
<b>Total additions</b>	564	183	(84,001)	(83,254)
<b>Deductions</b>				
Benefits	2,937	143,726	18,000	164,663
Administrative expense	19	954	120	1,093
<b>Total deductions</b>	2,956	144,680	18,120	165,756
<b>Net increase (decrease)</b>	(2,392)	(144,497)	(102,121)	(249,010)
<b>Net position restricted for pension and other postemployment benefits</b>				
<b>Beginning of year</b>	306,441	251,697	807,230	1,365,368
<b>End of year</b>	\$ 304,049	\$ 107,200	\$ 705,109	\$ 1,116,358

The accompanying notes are an integral part of these financial statements.

**Teachers' Retirement System of the State of Kentucky**  
**Combining Statement of Changes in Fiduciary Net Position — Other Funds**  
**For the Year Ended June 30, 2021**

	<b>403(b) Tax- Sheltered Trust</b>	<b>Supplemental Benefit Fund</b>	<b>Losey Scholarship Fund</b>	<b>Total</b>
<b>Additions</b>				
<b>Contributions</b>				
Other employers	\$	\$ 365,866	\$	\$ 365,866
<b>Investment income (loss)</b>				
Net appreciation in fair value of investments			97,882	97,882
Interest	104	427	9,016	9,547
Dividends			6,489	6,489
Securities lending, gross			677	677
<b>Gross investment income (loss)</b>	<u>104</u>	<u>427</u>	<u>114,064</u>	<u>114,595</u>
Less: securities lending expense			13	13
<b>Net investment income (loss)</b>	<u>104</u>	<u>427</u>	<u>114,077</u>	<u>114,608</u>
<b>Total additions</b>	104	366,293	114,077	480,474
<b>Deductions</b>				
Benefits	4,061	144,494	18,000	166,555
Administrative expense	22	817	100	939
<b>Total deductions</b>	<u>4,083</u>	<u>145,311</u>	<u>18,100</u>	<u>167,494</u>
<b>Net increase (decrease)</b>	(3,979)	220,982	95,977	312,980
<b>Net position restricted for pension and other postemployment benefits</b>				
<b>Beginning of year</b>	310,420	30,715	711,253	1,052,388
<b>End of year</b>	<u>\$ 306,441</u>	<u>\$ 251,697</u>	<u>\$ 807,230</u>	<u>\$ 1,365,368</u>

The accompanying notes are an integral part of these financial statements.



## Note 1 Description of Retirement Annuity Trust

### Reporting Entity

The Teachers' Retirement System of the State of Kentucky (TRS, or system) was created by the 1938 General Assembly, began operations July 1, 1940, and is governed by Kentucky Revised Statutes (KRS) chapter 161 sections 220 through 990. TRS is a blended component unit of the Commonwealth of Kentucky (commonwealth or state) and, therefore, is included in the commonwealth's financial statements. TRS is a cost-sharing multiple-employer defined benefit plan with a special funding situation established to provide retirement, health and life insurance benefits for specified employees of local school districts and other public educational agencies in the commonwealth.

KRS 161.250 provides that the general administration and management of TRS, and the responsibility for its proper operation, is vested in a board of trustees. The Board of Trustees consists of the chief state school officer, the state treasurer, two trustees appointed by the governor and seven elected trustees. Four of the elected trustees are active teachers, two are not members of the teaching profession, and one is an annuitant of the system.

### Participants

As of June 30, 2022, a total of 202 employers participated in the plan. Employers are comprised of local school districts, Department of Education agencies, universities, the Kentucky Community and Technical College System and other educational organizations. The state under the Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 74 is recognized as a non-employer contributing entity providing the employer matching contributions for members employed by the local school districts and regional educational cooperatives.

According to KRS 161.220, any regular or special teacher, or professional occupying a position requiring certification or graduation from a four-year college or university is eligible to participate in the system. The following table illustrates the classifications of members.

	2022	2021
Active contributing members:		
Vested	49,588	48,817
Non-vested	25,197	20,439
Inactive members, vested	10,690	10,538
Retirees and beneficiaries currently receiving benefits	58,438	57,465
Total members, retirees and beneficiaries	143,913	137,259

### Benefit Provisions

**For Members Before July 1, 2008:** Members become vested when they complete five years of credited service. To qualify for monthly retirement benefits, payable for life, members must either:

1. Attain age 55 and complete five years of Kentucky service, or
2. Complete 27 years of Kentucky service.

Non-university members receive monthly payments equal to 2% (service prior to July 1, 1983) and 2.5% (service after July 1, 1983) of their final average salaries for each year of credited service. Non-university members who became members on or after July 1, 2002, will receive monthly benefits equal to 2% of their final average salary for each year of service if, upon retirement, their total service is less than 10 years. New members after July 1, 2002, who retire with 10 or more years of total service will

receive monthly benefits equal to 2.5% of their final average salary for each year of service, including the first 10 years. In addition, non-university members who retire July 1, 2004, and later with more than 30 years of service will have a multiplier for all years over 30 of 3%.

University employees receive monthly benefits equal to 2% of their final average salary for each year of credited service.

The final average salary is the member's five highest annual salaries except members at least age 55 with 27 or more years of service may use their three highest annual salaries. For all members, the annual allowance is reduced by 5% per year from the earlier of age 60 or the date the member would have completed 27 years of service. The minimum annual service allowance for all members is \$440 multiplied by credited service.

**For Members On or After July 1, 2008, and Before Jan. 1, 2022:** Members become vested when they complete five years of credited service. To qualify for monthly retirement benefits, payable for life, members must either:

1. Attain age 60 and complete five years of Kentucky service, or
2. Complete 27 years of Kentucky service, or
3. Attain age 55 and complete 10 years of Kentucky service.

The annual retirement allowance for non-university members is equal to: (a) 1.7% of final average salary for each year of credited service if their service is 10 years or less; (b) 2% of final average salary for each year of credited service if their service is greater than 10 years but no more than 20 years; (c) 2.3% of final average salary for each year of credited service if their service is greater than 20 years but no more than 26 years; (d) 2.5% of final average salary for each year of credited service if their service is greater than 26 years but no more than 30 years; (e) 3% of final average salary for years of credited service greater than 30 years.

The annual retirement allowance for university members is equal to: (a) 1.5% of final average salary for each year of credited service if their service is 10 years or less; (b) 1.7% of final average salary for each year of credited service if their service is greater than 10 years but no more than 20 years; (c) 1.85% of final average salary for each year of credited service if their service is greater than 20 years but less than 27 years; (d) 2% of final average salary for each year of credited service if their service is greater than or equal to 27 years.

The final average salary is the member's five highest annual salaries except members at least age 55 with 27 or more years of service may use their three highest annual salaries. For all members, the annual allowance is reduced by 6% per year from the earlier of age 60 or the date the member would have completed 27 years of service.

**For Members On or After Jan. 1, 2022:** To qualify for monthly retirement benefits, payable for life, members must either:

1. Attain age 57 and complete 10 years of Kentucky service, or
2. Attain age 65 and complete five years of Kentucky service.

#### Foundational Benefit

The annual foundational benefit for members is equal to service times a multiplier times final average salary. The final average salary is the member's five highest annual salaries. The annual foundational benefit is reduced by 6% per year from the earlier of age 60 or the date the member would have completed 30 years of service.

The multiplier for non-university members is shown in the following table:

Age	Years of Service			
	5-9.99	10-19.99	20-29.99	30 or more
57-60		1.70%	1.95%	2.20%
61		1.74%	1.99%	2.24%
62		1.78%	2.03%	2.28%
63		1.82%	2.07%	2.32%
64		1.86%	2.11%	2.36%
65 and over	1.90%	1.90%	2.15%	2.40%

The multiplier for university members is shown in the following table:

Age	Years of Service			
	5-9.99	10-19.99	20-29.99	30 or more
57-60		0.70%	0.95%	1.20%
61		0.74%	0.99%	1.24%
62		0.78%	1.03%	1.28%
63		0.82%	1.07%	1.32%
64		0.86%	1.11%	1.36%
65 and over	0.90%	0.90%	1.15%	1.40%

**Supplemental Benefit**

The annual supplemental benefit is equal to the account balance that includes member and employer contributions and interest credited annually on June 30. Options include annuitizing the balance or receiving the balance or a portion thereof as a lump sum either at the time of retirement or at a later date.

**Other Benefits**

TRS provides postemployment health insurance benefits to retirees as fully described in Note 8. For members who began participating prior to Jan. 1, 2022, TRS also provides disability benefits for vested members at the rate of 60% of the final average salary. Members who began participating on or after Jan. 1, 2022, will receive a disability benefit to be determined by the board through administrative regulation.

A life insurance benefit payable upon the death of a member, also described in Note 9, is \$2,000 for active contributing members and \$5,000 for retired or disabled members for members who began participating before Jan. 1, 2022. For members who entered on or after Jan 1, 2022, the life insurance benefit payable upon the death of a member is \$5,000 for active contributing members and \$10,000 for retired or disabled members

Cost of living increases are 1.5% annually. Additional ad hoc increases and any other benefit amendments must be authorized by the General Assembly.

**Note 2**  
**Summary of Significant Accounting Policies**

**Basis of Accounting**

The financial statements are prepared on the accrual basis of accounting. Member contributions and employer matching contributions are recognized in the fiscal year due. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

## **Cash**

TRS has seven cash accounts. At June 30, 2022, the retirement annuity cash account totaled \$338.7 million, the control cash account totaled \$81.7 million and the capital project cash account totaled \$274,003 for a total of \$421 million as carrying value of cash in the retirement trust. The health insurance's Internal Revenue Code sec. 115 (IRC 115) trust cash account totaled \$182 million, the health insurance 401(h) cash account totaled \$13.7 million for a total of \$196 million as carrying value of cash in the Health Insurance Trust. The Life Insurance Trust cash account totaled \$392,044. The Supplemental Benefit Fund cash account contained \$110,373. Therefore, the carrying value of cash was \$617 million, and the bank balance was \$642.6 million. The variance is primarily due to outstanding checks and items not processed by the bank as of June 30, 2022.

At June 30, 2021, the retirement annuity cash account totaled \$80.1 million, the control cash account totaled \$70.1 million and the capital project cash account totaled \$274,003 for a total of \$150.5 million as carrying value of cash in the retirement trust. The health insurance's IRC 115 trust cash account totaled \$54.0 million, the health insurance 401(h) cash account totaled \$14.8 million for a total of \$68.8 million as carrying value of cash in the Health Insurance Trust. The Life Insurance Trust cash account totaled \$274,743. The Supplemental Benefit Fund cash account contained \$253,916. Therefore, the carrying value of cash was \$219.8 million, and the bank balance was \$237.2 million. The variance is primarily due to outstanding checks and items not processed by the bank as of June 30, 2021.

## **Capital Assets**

Property and equipment are carried at cost, less accumulated depreciation. All costs of property and equipment \$5,000 or greater are capitalized. Expenditures for maintenance and repairs are charged to operations as incurred. Depreciation is calculated using the straight-line method, with estimated lives ranging from five to 40 years in the following major classes: office furniture and equipment, five years; other equipment, five years; computer software, 10 years; and TRS office buildings, 40 years. Pathway replaced TRS's legacy computer system and is TRS's primary business information technology system. Pathway was capitalized and is being amortized or depreciated over 10 years.

## **Investments**

Plan investments are reported at fair value. Fair value is the amount that a plan can reasonably expect to receive for an investment in a current sale between a willing buyer and a willing seller. Short-term securities are carried at cost, which approximates fair value. Fixed income and common and preferred stocks are generally valued based on published market prices and quotations from national security exchanges and securities pricing services. Real estate is primarily valued based on appraisals performed by independent appraisers. Other investments, such as private equity, timberland, real estate funds and other additional categories, are valued using the most recent general partner statement at net asset value. Examples of other additional categories are opportunistic credit, high yield bonds and direct lending.

Purchase and sales of debt securities, equity securities and short-term investments are recorded on the trade date. Real estate equity transactions are recorded on the settlement date. Upon sale of investments, the difference between sales proceeds and cost is reflected in the statement of changes in fiduciary net position. Investment expenses consist of investment manager and consultant fees along with fees for custodial services.

## **Compensated Absences**

Expenses for accumulated vacation days and compensatory time earned by TRS's employees are recorded when earned. Upon termination or retirement, employees of TRS are paid for accumulated vacation time limited to 60 days and accumulated compensatory time limited to 240 hours. As of June 30, 2022 and 2021, accrued compensated absences were included in accrued expenses and other liabilities on the statements of fiduciary net position amounting to \$2 million and \$1.5 million, respectively.

### **Risk Management**

Destruction of assets, theft, employee injuries and court challenges to administrative policy are among the various risks to which TRS is exposed. In order to cover such risks, TRS carries appropriate insurance policies, such as fire and tornado, employee bonds, fiduciary liability, worker's compensation and equipment insurance.

### **Other Receivables**

In the Retirement Annuity Trust, other receivables consist primarily of installment contract receivables. TRS allows qualified purchases of service credit to be made by installment payments that are not to exceed a five-year period. Revenue is recognized in the initial year of the installment agreement. The June 30, 2022, other receivables in the retirement trust were \$53,073 and \$85,219 in 2021.

In the Health Insurance Trust, other receivables consist primarily of Medicare subsidies and formulary rebates accrued, but not received. The June 30, 2022, other receivables in the health trust were \$37.3 million and \$37.9 million in 2021.

### **Accrued Expenses and Other Payables**

TRS's accrued expenses and other payables consist primarily of administrative expenses incurred but not paid at year end and also from the state paying estimated retirement and health insurance contributions from the enacted budget that were in excess of actual contributions required.

### **Use of Estimates**

The preparation of financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates. The most significant estimates impacting the financial statements relate to the actuarial assumptions.

### **Income Taxes**

The Retirement Annuity Trust is organized as a tax-exempt retirement plan under the Internal Revenue Code. The 403(b) Tax-Sheltered Trust no longer accepts contributions and will be fully terminated when all lifetime annuities have expired. TRS's management believes that it has operated the plans within the constraints imposed by federal tax law.

### **Reclassifications**

Certain amounts in the 2021 financial statements have been reclassified to conform to the 2022 presentation with no impact on total assets, liabilities, net position and changes in net position.

## **Note 3 Contributions and Funds of the Plan**

### **Contributions**

Contribution rates are established by Kentucky Revised Statutes. For members who began participating before Jan. 1, 2022, non-university members are required to contribute 12.855% of their salaries to the system; university members are required to contribute 10.4% of their salaries. KRS 161.565 allows each university to reduce the contribution of its members by 2.215%; therefore, university members contribute 8.185% of their salary to TRS. For members employed by local school districts, the state (as a non-employer contributing entity) contributes 13.105% of salary for those who joined before July 1, 2008, and 14.105% for those who joined on or after July 1, 2008, and before Jan. 1, 2022. Other participating employers are required to contribute the percentage contributed by members plus an additional 3.25% of members' gross salaries.

For members who began participating on or after Jan. 1, 2022, non-university members contribute 14.75% and university members contribute 9.775% of their salaries to the system. Employers of non-university members, including the state (as a non-employer contributing entity), contribute 10.75% of salary. University employers contribute 9.775% of member's salary to the system.

The member and employer contributions consist of retirement annuity contributions and OPEB contributions to the health insurance and life insurance trusts. The member postemployment health insurance contribution is 3.75% of salary. The employer postemployment health insurance contribution is 0.75% of member salaries. Also, employers (other than the state) contribute 3% of members' salaries and the state contributes the net cost of health insurance premiums for new retirees after June 30, 2010, in the non-Medicare eligible group. If a member leaves covered employment before accumulating five years of credited service, accumulated member contributions to the retirement trust are refunded with interest upon the member's request.

### **Funds of the Plan**

**Teacher Savings Fund:** KRS 161.420(2) establishes the Teacher Savings Fund consisting of contributions paid by university and non-university members. The fund also includes interest authorized by the Board of Trustees from the Guarantee Fund (described below). The accumulated contributions of members that are returned upon withdrawal or paid to the estate or designated beneficiary in the event of death are paid from this fund. Upon retirement, the member's contributions and the matching state contributions are transferred from this fund to the Allowance Reserve Fund, the fund (also described below) from which retirement benefits are paid.

**State Accumulation Fund:** KRS 161.420(3) establishes the State Accumulation Fund, which receives state appropriations to the system. The state matches an amount equal to members' contributions. State appropriations during the year are based on estimates of members' salaries. At year-end when actual salaries are known, the required state matching also is realized by producing either a receivable from or a payable to the state.

**Allowance Reserve Fund:** KRS 161.420(4) establishes the Allowance Reserve Fund, which is the source for retirement, disability and survivor benefits paid to TRS members. These benefits are paid from the retired members' contributions until they are exhausted, at which time state matching contributions are used to pay the benefits. After an individual member's contributions and the state matching contributions have been exhausted, retirement benefits are paid from monies transferred from the Guarantee Fund (described below).

**Guarantee Fund:** KRS 161.420(6) establishes the Guarantee Fund to collect income from investments, state matching contributions of members withdrawn from the system, and state matching contributions for cost-of-living adjustments (COLAs). In addition, it receives money for which disposition is not otherwise provided. This fund provides interest to the other funds, benefits in excess of both members' and state matching contributions, monies for administrative expenses of TRS and deficiencies not covered by the other funds.

**Expense Fund:** KRS 161.420(1) establishes the Expense Fund for administrative expenses. Investment income transferred to this fund from the Guarantee Fund is used to pay the administrative expenses of TRS. Administrative expenses are allocated among the funds based on benefits paid.

**Note 4**  
**Net Pension Liability of Employers**

The net pension liability (i.e., the system's liability determined in accordance with GASB Statement No. 67 less the fiduciary net position) as of June 30, 2022 and 2021 follows.

**Schedule of Net Pension Liability of Employers**  
*(Dollars in thousands)*

Fiscal Year Ending June 30	Total Pension Liability A	Plan Fiduciary Net Position B	Employers Net Pension Liability (A-B)	Plan Fiduciary Net Position as a % of Total Pension Liability (B/A)	Covered Payroll C	Net Pension Liability as a % of Covered Payroll [(A-B)/C]
2022	\$ 40,598,288	\$ 22,899,952	\$ 17,698,336	56.4	\$ 3,876,491	456.6
2021	39,541,567	25,935,779	13,605,788	65.6	3,638,905	373.9

**Summary of Actuarial Assumptions**

A summary of the actuarial assumptions as of the latest actuarial valuation follows.

Valuation date	June 30, 2021
Actuarial cost method	Entry age
Investment rate of return	7.10%, net of pension plan investment expense, including inflation.
Projected salary increases	3.0 - 7.5%, including inflation
Inflation rate	2.5%
Post-Retirement adjustment	1.5%
Municipal bond index rate	3.37%
Single equivalent interest rate	7.1%

Mortality rates were based on the Pub2010 (Teachers Benefit-Weighted) Mortality Table projected generationally with MP-2020 with various set-forwards, set-backs and adjustments for each of the groups; service retirees, contingent annuitants, disabled retirees and active members. The actuarial assumptions used were based on the results of an actuarial experience study for the 5-year period ending June 30, 2020, adopted by the board on September 20, 2021. The assumed long-term investment rate of return was changed from 7.5% to 7.1% and the price inflation assumption was lowered from 3% to 2.5%. The Municipal Bond Index Rate used for this purpose is the June average of the Bond Buyer General Obligation 20-year Municipal Bond Index.

**Target Allocations**

The long-term expected rate of return on pension plan investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

A summary of the target allocation and best estimates of arithmetic real rates of return for each major asset class, as provided by TRS's investment consultant, follows.

Asset Class	Target Allocation Percentage	Long-Term Expected Real Rate Percentage of Return
Large cap U.S. equity	37.4	4.2
Small cap U.S. equity	2.6	4.7
Developed international equity	16.5	5.3
Emerging markets equity	5.5	5.4
Fixed income	15.0	(0.1)
High yield bonds	2.0	1.7
Other additional categories	5.0	2.2
Real estate	7.0	4.0
Private equity	7.0	6.9
Cash	2.0	(0.3)
Total	100	

#### Discount Rate

For 2022 and 2021, the discount rate used to measure the total pension liability was 7.1%. The projection of cash flows used to determine the discount rate assumed that plan member contributions will be made in full at the current contribution rates and the employer contributions will be made at actuarially determined contribution (ADC) rates for all future fiscal years. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The following table presents TRS's net pension liability for 2022. TRS's 2022 net pension liability is calculated using the discount rate of 7.1%, as well as what the system's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.1%) or 1 percentage point higher (8.1%) than the current rate.

<b>2022</b>			
<i>(In thousands)</i>	<b>1% Decrease (6.1%)</b>	<b>Current Discount (7.1%)</b>	<b>1% Increase (8.1%)</b>
Net pension liability	\$ 22,587,405	\$ 17,698,336	\$ 13,623,659

The following table presents TRS's net pension liability for 2021. TRS's 2021 net pension liability is calculated using the discount rate of 7.1%, as well as what the system's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (6.1%) or 1 percentage point higher (8.1%) than the current rate.

<b>2021</b>			
<i>(In thousands)</i>	<b>1% Decrease (6.1%)</b>	<b>Current Discount (7.1%)</b>	<b>1% Increase (8.1%)</b>
Net pension liability	\$ 18,389,990	\$ 13,605,788	\$ 9,631,759



June 30, 2021, is the actuarial valuation date upon which the total pension liability (TPL) is based for 2022. An expected TPL is determined as of June 30, 2022, using standard roll forward techniques. The roll-forward calculation adds the annual normal cost (also called the service cost), subtracts the actual benefit payments and refunds for the plan year and then applies the expected investment rate of return for the year. In addition, the expected TPL as of June 30, 2022 has been determined based on the TPL roll-forward from June 30, 2021. The difference between the two roll-forward amounts as of June 30, 2022, is the experience gain or loss for the year. These procedures are shown in the following table.

**TPL Roll Forward 2022**

*(Dollars in thousands)*

	<b>Expected (1)</b>	<b>Actual (2)</b>
(a) Interest Rate	7.1%	7.1%
(b) TPL as of June 30, 2021	\$ 39,541,567	\$ 39,581,704
(c) Entry Age Normal Cost for the Year July 1, 2021 - June 30, 2022	621,689	621,689
(d) Actual Benefit Payments (including refunds) For the year July 1, 2021 - June 30, 2022	2,332,598	2,332,598
(e) TPL as of June 30, 2022 [(b) x (1 + (a))] + (c) - [(d) x (1 + (0.5 x (a)))]	40,555,302	40,598,288
(f) Experience (Gain)/Loss = (e2) - (e1)		42,986

June 30, 2020, is the actuarial valuation date upon which the TPL is based for 2021. An expected TPL is determined as of June 30, 2021, using standard roll-forward techniques for the actual TPL both before and after the assumption changes due to the experience study and the reduction in the assumed investment rate of return. The difference between these two amounts is shown as a change in assumptions. The roll-forward calculation adds the annual normal cost (also called the service cost), subtracts the actual benefit payments and refunds for the plan year and then applies the expected investment rate of return for the year. The expected TPL as of June 30, 2021 has been determined based on the TPL roll-forward from June 30, 2020. The difference between the two roll-forward amounts as of June 30, 2021, is the experience gain or loss. The procedures are shown in the following table.

**TPL Roll Forward 2021**

*(Dollars in thousands)*

	Expected (1)	Actual Before Assumption Change (2)	Actual After Assumption Changes (3)
(a) Interest Rate	7.50%	7.50%	7.10%
(b) TPL as of June 30, 2020	\$ 35,552,041	\$ 35,582,250	\$ 35,834,421
(c) Entry Age Normal Cost for the Year July 1, 2020 - June 30, 2021	563,188	563,188	612,069
(d) Actual Benefit Payments (including refunds) For the year July 1, 2020 - June 30, 2021	2,260,615	2,260,615	2,260,615
(e) TPL as of June 30, 2021 (b) x (1 + (a)) + (c) - (d) x (1 + 0.5 x (a))	36,436,244	36,468,719	39,541,567
(f) Experience (Gain)/Loss = (e2) - (e1)		32,475	
(g) Assumption Change (Gain)/Loss = (e3) - (e2)			3,072,848

**Note 5**

**Deposits With Financial Institutions and Investments  
(Including Repurchase Agreements)**

**Legal Provisions for Investments**

The following disclosures are meant to help the users of the financial statements for the Teachers' Retirement System of the State of Kentucky (TRS or system) assess the risks TRS takes in investing member funds. The Board of Trustees and the Investment Committee are guided by asset allocation parameters that the board approves through its powers as defined in KRS 161.430.

TRS administers a Retirement Annuity Trust, Health Insurance Trust and Life Insurance Trust in accordance with state and federal law. TRS provides benefits for service and disability retirements; death and survivors; retiree health insurance; and life insurance for Kentucky public education employees and their beneficiaries.

The asset allocation parameters for the retirement annuity and life insurance trusts are set forth in 102 Kentucky Administrative Regulations (KAR) 1:175, sections 2 and 3 as follows:

- There shall be no limit on the amount of investments owned if the investments are guaranteed by the U.S. government.
- Not more than 35% of the assets at fair value shall be invested in corporate debt obligations.
- Not more than 10% of the assets at fair value shall be invested in foreign debt.
- Not more than 65% of the assets at fair value shall be invested in common stocks or preferred stocks.
- Not more than 25% of the assets at fair value shall be invested in a stock portfolio designed to replicate a general stock index.
- Not more than 30% of the assets at fair value shall be invested in the stocks of companies domiciled outside of the United States; any amounts so invested shall be included in the 65% limitation for total stocks.

- Not more than 10% of the assets at fair value shall be invested in real estate. This would include real estate equity, real estate lease agreements and shares in real estate investment trusts.
- Not more than 10% of the assets at fair value shall be invested in alternative investments. This category may include private equity, venture capital, timberland and infrastructure investments.
- Not more than 15% of the assets at fair value shall be invested in any additional category or categories of investments. The board shall approve by resolution such additional category or categories of investments.

The asset allocation parameters for the Health Insurance Trust fund are set forth in 102 KAR 1:178, section 2 as follows:

- In order to preserve the assets and produce the required rate of return while minimizing risk, assets shall be prudently diversified among various classes of investments.
- In determining asset allocation policy, the investment committee and the board shall be mindful of the trust's liquidity and its capability of meeting both short and long-term obligations.

### **Cash and Cash Equivalents**

For cash deposits and cash equivalents, custodial credit risk is the risk that, in the event of a bank failure, TRS's deposits may not be returned to the system. TRS's total cash balance held at J.P. Morgan Chase bank on June 30, 2022, was \$642.6 million. TRS's total cash balance held at J.P. Morgan Chase on June 30, 2021, was \$237.2 million.

Deposits are exposed to custodial credit risk if they are not covered by depository insurance and the deposits are:

- a. uncollateralized,
- b. collateralized with securities held by the pledging financial institution or
- c. collateralized with securities held by the pledging financial institution's trust department or agent but not in the depositor-government's name.

As of June 30, 2022, TRS's cash balance of \$642.6 million was not exposed to custodial credit risk because this amount was collateralized fully with a letter of credit in the amount of \$302.3 million as well as securities held by the Federal Reserve Bank of New York in the name of the Commonwealth of Kentucky — Teachers' Retirement valued at \$340.9 million.

As of June 30, 2021, TRS's cash balance of \$237.2 million was not exposed to custodial credit risk because this amount was collateralized fully with a letter of credit in the amount of \$300 million.

### **Investments**

All of TRS's assets are invested in short-term and long-term debt (bonds and mortgages) securities, equity (stock) securities, real estate, alternative investments and additional categories as permitted by regulation. These assets are reported at fair value.

Investments are governed by the board's policies. The board and the Investment Committee execute their fiduciary responsibilities in accordance with the prudent person rule, as identified in KRS 161.430 (2)(b). The prudent person rule establishes a standard for all fiduciaries to act as a prudent person would be expected to act, with the "care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with these matters would use in the conduct of an enterprise of a like character and with like aims."

The following tables represent the fair value of TRS's investments for June 30, 2022, and 2021.

**Schedules of Investments  
Retirement Annuity Trust**

	<b>Fair Value June 30, 2022</b>	<b>Fair Value June 30, 2021</b>
<b>Short-term investments</b>		
Cash and cash equivalents	\$ 1,018,544,170	\$ 1,065,663,926
<b>Subtotal</b>	1,018,544,170	1,065,663,926
<b>Fixed Income</b>		
U.S. government	1,149,592,337	1,432,074,083
Agency bonds	73,829,978	83,582,255
Mortgage-backed securities	133,311,012	142,314,510
Asset-backed securities	30,303,278	52,495,131
Commercial mortgage-backed securities	31,473,511	24,828,229
Collateralized mortgage obligations	24,673,583	29,963,781
Municipal bonds	312,626,893	313,070,347
Corporate bonds	1,488,986,426	1,549,593,040
<b>Subtotal</b>	3,244,797,018	\$ 3,627,921,376
<b>Equities</b>		
International	4,227,631,298	5,826,115,153
U.S.	8,039,872,060	10,242,433,510
<b>Subtotal</b>	12,267,503,358	16,068,548,663
<b>Real estate</b>	1,693,627,935	1,405,889,580
<b>Alternative investments</b>		
Private equity	1,808,795,204	1,549,761,484
Timberland	483,469,603	208,371,753
<b>Subtotal</b>	2,292,264,807	1,758,133,237
<b>Additional categories</b>		
Opportunistic credit	813,467,573	666,169,453
Corporate bonds	751,414,788	785,923,582
Corporate loans	345,230,326	351,360,144
<b>Subtotal</b>	1,910,112,687	1,803,453,179
<b>Total*</b>	\$ 22,426,849,975	\$ 25,729,609,961

\*This schedule includes the 403(b) Tax Shelter fund and Losey Scholarship fund.

**Health Insurance Trust**

	<b>Fair Value June 30, 2022</b>	<b>Fair Value June 30, 2021</b>
<b>Short-term investments</b>		
Cash and cash equivalents	\$ 67,213,821	\$ 157,506,899
<b>Subtotal</b>	<u>67,213,821</u>	<u>157,506,899</u>
<b>Fixed income</b>		
U.S. government	37,651,068	41,897,387
Agency bonds	969,520	999,010
Mortgage-backed securities	5,087,374	3,896,465
Collateralized mortgage obligations	885,759	1,032,455
Municipal bonds	9,718,049	10,444,319
Corporate bonds	89,972,254	96,902,165
<b>Subtotal</b>	<u>144,284,024</u>	<u>155,171,801</u>
<b>Equities</b>		
Global	1,003,875,627	1,104,324,500
International	2,888,554	12,176,350
U.S.	88,497,979	158,110,014
<b>Subtotal</b>	<u>1,095,262,160</u>	<u>1,274,610,864</u>
<b>Real estate equity</b>	150,214,503	111,459,521
<b>Private equity</b>	204,919,107	170,660,050
<b>Additional categories</b>		
Opportunistic credit	129,749,917	104,033,282
Corporate bonds	173,323,332	173,674,041
Corporate loans	62,534,249	64,699,560
U.S. equity	6,334,819	7,584,288
<b>Subtotal</b>	<u>371,942,317</u>	<u>349,991,171</u>
<b>Total</b>	<u>\$ 2,033,835,932</u>	<u>\$ 2,219,400,306</u>

### Life Insurance Trust

	<b>Fair Value June 30, 2022</b>	<b>Fair Value June 30, 2021</b>
<b>Short-term investments</b>		
Cash and cash equivalents	\$ 8,345,378	\$ 9,405,976
<b>Subtotal</b>	8,345,378	9,405,976
<b>Fixed income</b>		
U.S. government	7,590,127	8,228,565
Mortgage-backed securities	286,793	399,987
Municipal bonds	2,478,748	2,919,720
Corporate bonds	7,516,401	8,494,982
<b>Subtotal</b>	17,872,069	20,043,254
<b>Equities</b>		
International	17,248,072	25,316,564
U.S.	30,815,516	42,964,768
<b>Subtotal</b>	48,063,588	68,281,332
<b>Real estate equity</b>	7,489,602	5,181,114
<b>Private equity</b>	3,283,908	1,420,801
<b>Additional categories</b>		
Corporate bonds		5,586
Opportunistic credit	2,130,839	1,724,422
U.S equity	680,854	819,345
<b>Subtotal</b>	2,811,693	2,549,353
<b>Total</b>	\$ 87,866,238	\$ 106,881,830

#### Custodial Credit Risk

Custodial credit risk for an investment is the risk that, in the event of the failure of a counterparty, TRS will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the system and are held by either:

- a. the counterparty or
- b. the counterparty's trust department or agent, but not in the system's name.

The cash reserve of TRS is maintained primarily in high quality short-term investments through the Dreyfus Institutional Cash Advantage Fund. This fund invests in a diversified portfolio of high quality, short-term debt securities, and the fund is rated AAA by S&P, Moody's and Fitch. The fund's portfolio is structured within the confines of Rule 2a-7 under the Investment Company Act of 1940. Commercial paper; U.S. Treasury and agency obligations; certificates of deposit; bankers' acceptances; repurchase agreements; time deposits; etc. all are permissible investments within this fund.

Whenever repurchase agreements are ordered by TRS under the terms of master repurchase agreements with various brokers, the terms are dictated by TRS. The repurchase agreements and their supporting collateral are held by the custodial agent's correspondent bank in an account identified by the custodian's name and TRS's nominee name. This account is unique to TRS. The master repurchase agreements require that the supporting collateral have a fair value of at least 102% of the value of the repurchase agreements.

As of June 30, 2022, cash collateral reinvestment securities acquired through securities lending for the Retirement Annuity Trust by TRS's custodian amounted to \$1.29 billion in relation to the \$1.25 billion securities lent consistent with the lending agreement with the custodian. Cash collateral reinvestment securities lending for the Life Insurance Trust by TRS's custodian amounted to \$29 million in relation to the \$28 million securities lent consistent with the lending agreement with the custodian. The custodian also is the lending agent and counterparty.

### Interest Rate Risk

Interest rate risk on investments is the possibility that changes in interest rates will reduce the fair value of TRS's investments. In general, the longer the period until an investment matures, the greater the risk of a negative impact on fair value resulting from changes in interest rates.

As of June 30, 2022, and 2021, the Retirement Annuity Trust, Health Insurance Trust and Life Insurance Trust had the following investment fair value and weighted average maturities.

Investment Type	Retirement Annuity Trust					
	2022			2021		
	Fixed Income	Additional Categories	Average Maturity (years)	Fixed Income	Additional Categories	Average Maturity (years)
U.S. government	\$1,149,592,337	\$	11.18	\$1,432,074,083	\$	11.34
Agency bonds	73,829,978		4.33	83,582,255		5.10
Mortgage-backed securities	133,311,012		15.00	142,314,510		16.49
Asset-backed securities	30,303,278		14.86	52,495,131		13.94
Commercial mortgage-backed securities	31,473,511		19.71	24,828,229		16.72
Collateralized mortgage obligations	24,673,583		8.56	29,963,781		10.64
Municipal bonds	312,626,893		11.16	313,070,347		12.16
Corporate bonds	1,488,986,426	751,414,788	9.40	1,549,593,040	785,923,582	9.16
Corporate loans		345,230,326	4.39		351,360,144	4.59
<b>Total</b>	<b>\$3,244,797,018</b>	<b>\$1,096,645,114</b>	<b>9.79</b>	<b>\$3,627,921,376</b>	<b>\$1,137,283,726</b>	<b>9.92</b>

Investment Type	Health Insurance Trust					
	2022			2021		
	Fixed Income	Additional Categories	Average Maturity (years)	Fixed Income	Additional Categories	Average Maturity (years)
U.S. government	\$ 37,651,068	\$	7.36	\$ 41,897,387	\$	8.50
Agency bonds	969,520		1.17	999,010		2.16
Mortgaged-backed securities	5,087,374		11.01	3,896,465		17.60
Collateralized mortgage obligations	885,759		7.32	1,032,455		8.30
Municipal Bonds	9,718,049		8.41	10,444,319		9.52
Corporate bonds	89,972,254	173,323,332	6.49	96,902,165	173,674,041	7.34
Corporate loans		62,534,249	4.84		64,699,560	4.84
<b>Total</b>	<b>\$ 144,284,024</b>	<b>\$ 235,857,581</b>	<b>6.40</b>	<b>\$ 155,171,801</b>	<b>\$ 238,373,601</b>	<b>7.20</b>

**Life Insurance Trust**

Investment Type	2022			2021		
	Fixed Income	Additional Categories	Average Maturity (years)	Fixed Income	Additional Categories	Average Maturity (years)
U.S. government	\$ 7,590,127	\$	12.41	\$ 8,228,565	\$	12.14
Mortgage-backed securities	286,793		12.38	399,987		13.06
Municipal bonds	2,478,748		7.70	2,919,720		8.69
Corporate bonds	7,516,401		11.12	8,494,982	5,586	13.17
<b>Total</b>	<b>\$ 17,872,069</b>	<b>\$</b>	<b>12.09</b>	<b>\$ 20,043,254</b>	<b>\$ 5,586</b>	<b>12.09</b>

In addition to the above securities, TRS held short-term cash investments in the Dreyfus Institutional Cash Advantage Fund, at the Bank of New York Mellon (BNYM), with a total fair value of \$1.09 billion and a weighted average maturity of 15 days. Average maturity is used as a measure of a security's exposure to interest rate risk due to fluctuations in market interest rates. Mortgage-backed securities and collateralized mortgage obligations typically are amortizing investments with an average life and interest rate risk significantly less than suggested by the legal maturity. Mortgage-backed securities, which generally are prepayable, and other callable bonds are subject to adverse changes in average life in response to market interest rate changes. The schedule above reflects only the legal maturity of all such bonds.

Interest rate risk is the risk that changes in interest rates will affect adversely the fair value of an investment. This risk is managed by using the effective duration or option adjusted methodology to quantify the risk of interest rate changes. This methodology takes into account options on bonds and scales the risk of price changes on bonds depending upon the degree of changes in rates and the slope of the yield curve. The control of interest rate risk is not set forth in a particular policy; however, the system manages interest rate risk in practice by establishing appropriate benchmarks for its various portfolios.

Mortgage-backed securities are securities representing pass-through interests in the cash flows from pools of mortgage loans on single-family or multi-family residential properties. All of the mortgage-backed securities owned by TRS were securitized and are guaranteed by Fannie Mae, Freddie Mac or Government National Mortgage Association (GNMA). The average life of a mortgage-backed security depends upon the level of prepayments experienced in the underlying pool of loans. Market interest rates are a primary determinant of prepayment levels. Lower-than-anticipated market rates generally lead to higher-than-anticipated prepayments and a shorter average life; higher-than-anticipated market rates generally lead to lower-than-anticipated prepayments and a longer average life. The Retirement Annuity Trust held \$133.3 million in mortgage-backed securities as of June 30, 2022, compared to \$142.3 million as of June 30, 2021. The Health Insurance Trust held \$5.1 million in mortgage-backed securities as of June 30, 2022, compared to \$3.9 million as of June 30, 2021. The Life Insurance Trust held \$286,793 in mortgage-backed securities as of June 30, 2022, compared to \$399,987 as of June 30, 2021.

Collateralized mortgage obligations are bonds that are collateralized by whole loan mortgages, mortgage pass-through securities or stripped mortgage-backed securities. Income is derived from payments and prepayments of principal and interest generated from collateral mortgages. Cash flows are distributed to different investment classes in accordance with collateralized mortgage obligations' established payment order. The Retirement Annuity Trust held \$24.7 million in collateralized mortgage obligations as of June 30, 2022, compared to \$30.0 million as of June 30, 2021. The Health Insurance Trust held \$885,759 in collateralized mortgage obligations as of June 30, 2022, compared to \$1.0 million as of June 30, 2021.

Asset-backed securities are bonds or notes backed by loan paper or accounts receivables originated by banks, credit card companies or other credit providers and are considered to be moderately sensitive to changes in interest rates. The originator of the loan or accounts receivable paper sells it to a specially created trust, which repackages it as securities. Asset-backed securities have been structured as pass-throughs and as structures with multiple bond classes. The Retirement Annuity Trust held \$30.3 million in asset-backed securities as of June 30, 2022, compared to \$52.5 million as of June 30, 2021.



Commercial mortgage-backed securities represent interests in the cash flows from pools of mortgage loans on commercial properties. The interests in a securitized pool of loans are divided generally into various tranches based upon planned payment order and level of seniority. TRS's commercial mortgage-backed securities consist of highly rated, relatively senior tranches. The average maturity of TRS's commercial mortgage-backed securities in the schedule above reflects the legal maturity of these holdings. Most of the tranches held are earlier in the planned payment order than the legal maturity suggests. The Retirement Annuity Trust held \$31.5 million in commercial mortgage-backed securities investments as of June 30, 2022, compared to \$24.8 million as of June 30, 2021.

### Credit Risk

Credit risk is the risk that an issuer or counterparty to an investment will not fulfill its obligations. The following schedules list TRS's fixed income investment fair value (net of cash equivalents) according to credit ratings as of June 30, 2022, and 2021.

#### 2022 Retirement Annuity Trust

Rating	Fixed Income	Additional Categories	Total	Percent
U.S. government	\$ 1,149,592,337	\$	\$ 1,149,592,337	26.48
AAA	187,112,695	2,798,409	189,911,104	4.38
AA	396,784,675	515,677	397,300,352	9.15
A	570,174,155	162,727	570,336,882	13.14
BBB	644,784,845	31,801,822	676,586,667	15.58
BB	8,232,374	461,790,627	470,023,001	10.83
B		445,632,980	445,632,980	10.26
CCC		45,478,066	45,478,066	1.05
CC		385,323	385,323	0.01
C		13,950	13,950	
D		99,560	99,560	
Not rated	288,115,937	107,965,973	396,081,910	9.12
<b>Total</b>	<b>\$ 3,244,797,018</b>	<b>\$ 1,096,645,114</b>	<b>\$ 4,341,442,132</b>	<b>100.00</b>

#### 2021 Retirement Annuity Trust

Rating	Fixed Income	Additional Categories	Total	Percent
U.S. government	\$ 1,432,074,083	\$	\$ 1,432,074,083	30.05
AAA	165,541,606	4,922,652	170,464,258	3.58
AA	418,443,880	4,923,371	423,367,251	8.88
A	640,112,602	3,021,777	643,134,379	13.50
BBB	737,028,573	29,001,678	766,030,251	16.08
BB	22,446,979	479,978,498	502,425,477	10.54
B		474,670,995	474,670,995	9.96
CCC		81,539,230	81,539,230	1.71
CC		1,059,296	1,059,296	0.02
C	1,400,395		1,400,395	0.03
D		1,437,717	1,437,717	0.03
Not rated	210,873,258	56,728,512	267,601,770	5.62
<b>Total</b>	<b>\$ 3,627,921,376</b>	<b>\$ 1,137,283,726</b>	<b>\$ 4,765,205,102</b>	<b>100.00</b>

**2022 Health Insurance Trust**

<b>Rating</b>	<b>Fixed Income</b>	<b>Additional Categories</b>	<b>Total</b>	<b>Percent</b>
U.S. government	\$ 37,651,068	\$	\$ 37,651,068	9.90
AAA	6,698,098	891,691	7,589,789	2.00
AA	29,600,787	408,030	30,008,817	7.89
A	37,796,136	39,183	37,835,319	9.95
BBB	26,564,802	7,495,309	34,060,111	8.96
BB		96,732,804	96,732,804	25.45
B		98,028,860	98,028,860	25.79
CCC		10,360,581	10,360,581	2.72
CC		217,106	217,106	0.06
C		4,108	4,108	
D		99,560	99,560	0.03
Not rated	5,973,133	21,580,349	27,553,482	7.25
<b>Total</b>	<b>\$ 144,284,024</b>	<b>\$ 235,857,581</b>	<b>\$ 380,141,605</b>	<b>100.00</b>

**2021 Health Insurance Trust**

<b>Rating</b>	<b>Fixed Income</b>	<b>Additional Categories</b>	<b>Total</b>	<b>Percent</b>
U.S. government	\$ 41,897,387	\$	\$ 41,897,387	10.64
AAA	7,528,579	1,667,427	9,196,006	2.34
AA	25,883,816	471,419	26,355,235	6.69
A	46,891,792	847,932	47,739,724	12.13
BBB	28,041,307	7,326,631	35,367,938	8.99
BB		94,431,806	94,431,806	24.00
B		99,848,169	99,848,169	25.37
CCC		18,687,738	18,687,738	4.75
CC		268,726	268,726	0.07
C				
D				
Not rated	4,928,920	14,823,753	19,752,673	5.02
<b>Total</b>	<b>\$ 155,171,801</b>	<b>\$ 238,373,601</b>	<b>\$ 393,545,402</b>	<b>100.00</b>

**2022 Life Insurance Trust**

<b>Rating</b>	<b>Fixed Income</b>	<b>Additional Categories</b>	<b>Total</b>	<b>Percent</b>
U.S. government	\$ 7,590,127	\$	\$ 7,590,127	42.47
AAA	681,318		681,318	3.81
AA	2,977,517		2,977,517	16.66
A	1,579,091		1,579,091	8.84
BBB	4,197,068		4,197,068	23.48
BB				
B	316,512		316,512	1.77
Not Rated	530,436		530,436	2.97
<b>Total</b>	<b>\$ 17,872,069</b>	<b>\$</b>	<b>\$ 17,872,069</b>	<b>100.00</b>

**2021 Life Insurance Trust**

<b>Rating</b>	<b>Fixed Income</b>	<b>Additional Categories</b>	<b>Total</b>	<b>Percent</b>
U.S. government	\$ 8,228,565	\$	\$ 8,228,565	41.04
AAA	726,660		726,660	3.63
AA	3,619,559		3,619,559	18.05
A	1,992,979		1,992,979	9.94
BBB	5,075,751		5,075,751	25.32
BB		5,586	5,586	0.03
B	399,740		399,740	1.99
<b>Total</b>	<b>\$ 20,043,254</b>	<b>\$ 5,586</b>	<b>\$ 20,048,840</b>	<b>100.00</b>

Total fair value of the Retirement Annuity Trust's fixed income portfolio was \$4.34 billion on June 30, 2022. The Health Insurance Trust's fixed income portfolio was valued at \$380.1 million on June 30, 2022. Total fair value of the Life Insurance Trust's fixed income portfolio was \$17.9 million on June 30, 2022. Standard & Poor's (S&P) rating system is used in the above charts. For securities where an S&P rating is not provided, another nationally recognized system is used and translated to the S&P rating system.

In addition to the above categories, the Retirement Annuity Trust held \$1.02 billion in short-term investments through the Dreyfus Institutional Cash Advantage Fund. The Health Insurance Trust held \$67.2 million in the Dreyfus Institutional Cash Advantage Fund. The Life Insurance Trust held \$8.3 million in the Dreyfus Institutional Cash Advantage Fund. The credit risk associated with this fund is minimal as the securities held are required to maintain the highest possible short-term credit ratings by Moody's and S&P. In addition, investments in U.S. government and agency securities also are highly rated securities since they are backed by the U.S. government. Notation is made that the ratings of securities are subject to change.

The Retirement Annuity Trust's policy on credit rating is set forth in 102 KAR 1:175.

**Concentration of Credit Risk**

Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer. Losses from credit risk are heightened if a significant portion of resources are invested with a single issuer. In compliance with 102 KAR 1:175, the Retirement Annuity Trust has not invested more than 5% of assets at fair value in any single issuer.

**Foreign Currency Risk**

Foreign currency risk is the risk that changes in exchange rates will affect adversely the fair value of an investment or a deposit. TRS holdings do not include foreign currency. The foreign currency tables shown are a comparative measure of the value of

TRS's foreign investments, like stocks, expressed in U.S. dollars using the conversion rate for that currency on the day the fiscal year ended. As of June 30, 2022, TRS's exposure to foreign currency risk consisted of \$4.76 billion in the Retirement Annuity Trust, \$491.9 million in the Health Insurance Trust and \$17.3 million in the Life Insurance Trust.

The majority of foreign investments are held in commingled funds managed by UBS Global Asset Management, Baillie Gifford, Baring Asset Management and BlackRock. In addition to the commingled funds investing in foreign securities, the Retirement Annuity Trust held \$736.1 million associated with foreign interests in American depository receipt investments. These American depository receipts are securities that are issued by a U.S. bank in place of the foreign stock shares held in trust by that bank, thereby facilitating the trading of foreign shares in U.S. markets. The cross-listed equities, in the amount of \$382.2 million, represent securities domiciled in foreign countries, but are listed and traded on U.S. exchanges. Other foreign securities and investments consist of debt securities and alternative investment opportunities.

The Retirement Annuity Trust's policy regarding foreign equities is that not more than 30% of the assets at fair value shall be invested in the stocks of companies domiciled outside of the United States. Any amounts so invested shall be included in the 65% limitation for total stocks under 102 KAR 1:175 Section 2(e).

The following tables represent in U.S. dollars the fair value of investments that are subject to foreign currency risk as a result of cash contributions to each portfolio manager as of June 30, 2022, and 2021.

#### Retirement Annuity Trust

	2022	2021
Commingled	\$ 3,029,556,395	\$ 3,959,389,179
Alternatives	277,842,260	237,151,587
American depository receipts	736,085,804	877,158,495
Cross-listed equities	382,244,110	581,929,795
Bonds	120,029,427	112,041,399
Additional categories (Fixed income)	118,089,954	121,162,648
Additional categories (Opportunistic)	98,744,254	130,256,713
Total	\$ 4,762,592,204	\$ 6,019,089,816

#### Health Insurance Trust

	2022	2021
Commingled	\$ 397,664,494	\$ 452,374,055
Alternatives	42,575,065	38,373,465
Cross-listed equities	2,888,554	12,176,350
Bonds	1,456,940	510,630
American depository receipts	1,368,805	2,958,806
Additional categories (Fixed income)	32,021,960	32,204,639
Additional categories (Opportunistic)	13,890,157	17,869,926
Total	\$ 491,865,975	\$ 556,467,871

#### Life Insurance Trust

	2022	2021
Commingled	\$ 16,579,034	\$ 23,045,234
Alternatives	420,996	154,705
Cross-listed equities	253,063	1,066,549
American depository receipts	39,893	86,179
Total	\$ 17,292,986	\$ 24,352,667

TRS's investments subject to foreign currencies and categorized in the preceding tables are illustrated further in the following tables by each country and its currency. As previously stated, TRS holdings do not include foreign currency. The amounts shown are the fair value in U.S. dollars of TRS's foreign investments. These foreign investments are made with U.S. dollars in the custody of American financial institutions. Foreign holdings not readily identifiable to a specific country are listed in the various category, which includes investment receivables, payables and new issues.

<b>Retirement Annuity Trust</b>					
<b>Currency</b>	<b>2022</b>	<b>2021</b>	<b>Currency</b>	<b>2022</b>	<b>2021</b>
Argentine peso	\$ 107,236	\$ 135,630	Korean won	\$ 101,697,578	\$ 133,330,423
Australian dollar	130,644,553	90,242,923	Kuwaiti dinar	1,247,065	1,089,608
Bahamian dollar		226,500	Liberian dollar	4,361,250	4,786,542
Bermudian dollar	30,071,729	65,877,460	Malaysian ringgit	6,240,256	10,530,737
Brazilian real	133,674,447	124,047,275	Mexican peso	41,749,510	31,191,640
British pound sterling	482,751,292	524,954,167	Netherlands Antillean guilder	9,915,826	3,414,443
Bulgarian lev		627,985	New Zealand dollar	4,089,333	6,095,626
Canadian dollar	243,576,565	372,086,892	Norwegian krone	103,696,810	88,040,195
Cayman Islands dollar	43,357,760	40,100,852	Pakistani rupee		107,261
Chilean peso	17,286,332	845,748	Panamanian balboa	4,149,702	3,618,396
Chinese yuan	273,001,885	155,883,245	Peruvian nuevo sol	168,028	
Colombian peso	26,376,783	28,676,575	Philippine peso	2,737,447	2,901,614
Czech koruna	445,307	216,741	Polish zloty	1,560,230	25,943,943
Danish krone	103,164,522	130,612,264	Qatari riyal	1,569,598	1,320,500
Egyptian pound	134,404	189,824	Russian ruble	337	98,073,638
Euro	1,627,884,474	2,152,101,294	Saudi riyal	6,196,328	5,502,685
Gibraltar pound	710,219	331,912	Singapore dollar	43,773,717	40,415,964
Guernsey pound	17,345,142	16,261,072	South African rand	87,030,766	67,360,762
Hong Kong dollar	166,944,875	477,602,775	Sri Lankan rupee		168,000
Hungarian forint	266,544	429,405	Swedish krona	73,633,424	136,054,319
Indian rupee	86,528,883	98,023,927	Swiss franc	198,861,473	205,466,234
Indonesian rupiah	9,169,449	5,420,893	Taiwan new dollar	67,236,355	109,396,565
Israeli new shekel	6,815,504	9,870,314	Thai baht	8,822,794	5,046,193
Jamaican dollar	126,527	147,899	Turkish lira	920,768	1,095,009
Japanese yen	558,763,004	692,175,103	United Arab Emirates dirham	1,793,558	1,218,257
Jersey pound	18,955,841	47,737,520	Various	13,036,774	2,095,067
			<b>Total</b>	<b>\$ 4,762,592,204</b>	<b>\$ 6,019,089,816</b>

**Health Insurance Trust**

<b>Currency</b>	<b>2022</b>	<b>2021</b>	<b>Currency</b>	<b>2022</b>	<b>2021</b>
Argentine peso	\$ 66,469	\$ 53,460	Kuwaiti dinar	\$ 1,007,828	761,645
Australian dollar	21,728,364	22,713,899	Liberian dollar	963,599	1,009,923
Bahamian dollar		226,500	Malaysian ringgit	1,927,885	2,001,823
Bermudian dollar	1,013,392	1,207,224	Mexican peso	3,543,837	3,320,609
Brazilian real	5,856,948	7,626,138	New Zealand dollar	843,955	1,073,659
British pound sterling	42,889,159	46,691,266	Norwegian krone	2,510,126	2,556,418
Canadian dollar	43,053,573	51,821,353	Pakistani rupee		82,832
Cayman Islands dollar	5,184,756	6,030,893	Panamanian balboa	823,842	720,339
Chilean peso	404,462	592,211	Peruvian nuevo sol	168,028	
Chinese yuan	11,371,846	9,722,150	Philippine peso	956,299	914,577
Colombian peso	389,755	319,725	Polish zloty	949,724	1,088,514
Czech koruna	171,744	181,675	Qatari riyal	1,222,823	936,551
Danish krone	6,786,186	7,061,749	Russian ruble	247	2,867,628
Egyptian pound	94,248	135,766	Saudi riyal	4,839,532	3,972,966
Euro	138,146,438	154,989,883	Singapore dollar	3,818,762	3,440,860
Gibraltar pound	168,334	67,344	South African rand	4,118,137	4,932,674
Hong Kong dollar	34,606,661	41,495,034	Sri Lankan rupee		168,000
Hungarian forint	188,949	346,097	Swedish krona	9,280,891	12,346,367
Indian rupee	16,666,383	15,612,093	Swiss franc	24,219,205	26,382,768
Indonesian rupiah	2,252,921	1,596,201	Taiwan new dollar	17,939,329	20,949,873
Israeli new shekel	2,173,098	1,763,998	Thai baht	2,529,664	2,559,866
Japanese yen	59,632,917	69,680,690	Turkish lira	793,503	853,192
Jersey pound	1,289,699	3,092,907	United Arab Emirates dirham	1,415,910	895,045
Korean won	13,852,831	19,603,486	Various	3,716	
			<b>Total</b>	<b>\$ 491,865,975</b>	<b>\$ 556,467,871</b>

**Life Insurance Fund**

Currency	2022	2021	Currency	2022	2021
Australian dollar	\$ 797,952	\$ 1,056,277	Kuwaiti dinar	\$ 35,391	\$ 34,216
Brazilian real	294,528	330,626	Malaysian ringgit	70,931	86,765
British pound sterling	1,546,974	1,969,439	Mexican peso	116,695	120,367
Canadian dollar	1,349,000	2,220,547	New Zealand dollar	30,442	43,382
Cayman Islands dollar	13,414	73,211	Norwegian krone	101,649	143,844
Chilean peso	14,049	26,558	Pakistani rupee		3,368
Chinese yuan	619,122	253,299	Philippine peso	31,366	39,514
Colombian peso	15,223	14,027	Polish zloty	28,027	48,092
Czech koruna	7,249	6,806	Qatari riyal	44,545	41,466
Danish krone	375,452	528,076	Russian ruble	10	125,247
Egyptian pound	3,814	5,961	Saudi riyal	175,849	172,794
Euro	4,099,101	5,834,780	Singapore dollar	152,371	151,660
Hong Kong dollar	1,353,409	2,550,124	South African rand	149,844	212,963
Hungarian forint	7,564	13,484	Swedish krona	412,996	666,951
Indian rupee	616,777	695,669	Swiss franc	846,621	1,130,043
Indonesian rupiah	81,358	69,267	Taiwan new dollar	718,802	948,730
Israeli new shekel	72,390	76,494	Thai baht	92,602	111,831
Japanese yen	2,352,561	3,383,908	Turkish lira	16,070	20,962
Jersey pound	78,743	251,322	United Arab Emirates dirham	50,900	38,255
Korean won	519,195	852,342			
			Total	<u>\$ 17,292,986</u>	<u>\$ 24,352,667</u>

**Fair Value Measurement**

A retiree pension defined benefit plan holds significant amounts of investments that are measured at fair value on a recurring basis. TRS categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles (GAAP) in the United States of America. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and is not necessarily indicative of risk.

Level 1 inputs are quoted prices (unadjusted) for identical assets or liabilities in active markets that a government can access at the measurement date. Level 2 inputs are inputs other than quoted prices included within Level 1 that are observable for an asset or liability. Level 2 inputs may include quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets of liabilities in non-active markets; and inputs other than quoted prices that are observable for the assets or liabilities, either directly or indirectly. Level 3 inputs are unobservable inputs for an asset or liability such as property appraisals, third-party valuations and public market comparables of similar assets where applicable. Investments measured at fair value using the net asset value (NAV) per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy. The fair value hierarchy gives the highest priority to Level 1 inputs and the lowest priority to Level 3 inputs.

**Schedules of Fair Value**

These category descriptions that immediately follow refer to the investments shown in the fair value level hierarchy schedules shown after these descriptions.

**Cash and Cash Equivalents:** Cash equivalents are short-term, highly liquid investments that readily are convertible to known amounts of cash and so near to their maturity that they present insignificant risk of changes in value because of changes in interest rates. This category is comprised of short-term investments via the Dreyfus Institutional Cash Advantage Fund and cash. Cash equivalents can be valued with inputs from quoted prices (unadjusted) for identical assets or liabilities in active markets that a government can access at the measurement date and, therefore, are classified as Level 1 assets.

**Equity and Fixed Income Securities:** Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets issued by pricing vendors for these securities. Debt and equity securities classified in Level 2 of the fair value hierarchy may use inputs such as market quotations, yields, maturities, call features and ratings or may be valued using a matrix pricing technique that values securities based on their relationship to benchmark quoted prices. Debt securities classified in Level 3 are securities whose stated market price is unobservable by the market place and, instead, are priced by the issuers or industry groups for these securities.

**Real Estate:** Real estate falls into the Level 3 classification of the fair value hierarchy. Much of TRS's real estate consists of owned properties leased to various commercial enterprises. The fair value measurement for real estate is determined by professional appraisals every five years.

**Timberland:** Timberland investments are managed investments regarding the acquiring, growing and disposing of timber on timberland owned by TRS. The adviser contracts with outside appraisers to generate annual fair value estimates. The outside appraisers utilized the cost, sales comparison and income capitalization approaches to estimate the fair value of the timber and timberland. The adviser challenges the reasonableness of the assumptions used and reviews the methodology to ensure the estimated fair value complies with GAAP. These funds are not available for redemption; instead, distributions are made to TRS as the underlying assets are sold.

**Additional Categories:** Investments in this category do not fit the regular parameters for the Retirement Annuity Trust in 102 KAR 1:175. They fall into the allowable 15% of assets invested in any additional categories approved by the board. Corporate bonds falling within the Level 1 classification are valued using prices quoted in active markets issued by pricing vendors for these securities. Corporate bonds listed in Level 2 may use inputs such as market quotations, yields, maturities, call features and ratings or may be valued using a matrix pricing technique that values securities based on their relationship to benchmark quoted prices. Corporate loans at Level 3 are valued by third-party pricing vendors such as Markit or Reuters.

**Commingled Funds:** These funds hold European loans, international equities and domestic equities. Commingled funds are valued at the net asset value held at the end of the period based upon the fair value of the underlying investments.

**Private Equity:** Private equity funds invest in equity and debt securities issued by private and publicly held companies in connection with leveraged buyouts, recapitalizations and expansion opportunities. Three of these funds are redeemable, but the majority do not allow redemptions. Alternatively, TRS receives distributions as the underlying assets of the funds liquidate, usually over a five- to 10-year liquidation period. Exchange quotations are not available readily for these investments. The fair value for most of these funds is determined using the net asset value one quarter in arrears, plus current quarter cash flows.

**Private Real Estate:** Three private real estate investments are open-ended. The remaining investments are not redeemable; rather, TRS receives distributions as the underlying assets liquidate, usually over a five- to 10-year liquidation period. Exchange quotations for these investments are not available readily. Most private real estate fair values are determined using the net assets valued one quarter in arrears, plus current quarter cash flows.

**Private Opportunistic Credit:** One private opportunistic credit fund is redeemable. The remainder are closed funds that issue distributions as the underlying assets of the fund liquidate, usually over a five- to 10-year liquidation period. The fair value for most of these funds is determined using the net assets valued one month in arrears, plus current period cash flows.



**Retirement Annuity Trust**  
**Schedule of Investments at Fair Value Level — 2022**

	<u>Level 1 Inputs</u>	<u>Level 2 Inputs</u>	<u>Level 3 Inputs</u>	<u>Fair Value</u>
<b>Cash and cash equivalents</b>	\$ 1,018,544,170	\$	\$	\$ 1,018,544,170
<b>Fixed income</b>				
Asset-backed securities		30,303,278		30,303,278
Agency bonds		73,829,978		73,829,978
Commercial mortgage-backed securities		31,473,511		31,473,511
Collateralized mortgage obligations		24,673,583		24,673,583
Corporate bonds		1,488,986,426		1,488,986,426
Mortgage-backed securities		133,129,052	181,960	133,311,012
Municipal bonds		312,626,893		312,626,893
U.S. government	1,145,619,271	3,973,066		1,149,592,337
<b>Subtotal</b>	1,145,619,271	2,098,995,787	181,960	3,244,797,018
<b>Equities</b>				
International	1,107,171,063	1,530,406,953		2,637,578,016
U.S.	7,697,139,844			7,697,139,844
<b>Subtotal</b>	8,804,310,907	1,530,406,953		10,334,717,860
<b>Real estate</b>			402,120,072	402,120,072
<b>Timberland</b>		4,256,528	479,213,075	483,469,603
<b>Additional categories</b>				
Corporate bonds	90,663	751,324,125		751,414,788
Corporate loans		1,141,349	251,748,977	252,890,326
<b>Subtotal</b>	90,663	752,465,474	251,748,977	1,004,305,114
<b>Total investments at fair value level</b>	\$ 10,968,565,011	\$ 4,386,124,742	\$ 1,133,264,084	\$ 16,487,953,837
<b>At Net Asset Value (NAV)</b>				
Commingled European loan funds				\$ 92,340,000
Commingled international equity funds				1,590,053,281
Commingled domestic equity funds				342,732,216
Private equity funds				1,808,795,204
Private real estate funds				1,291,507,864
Private opportunistic credit funds				813,467,573
<b>Total investments measured at NAV</b>				5,938,896,138
<b>Total investments at fair value</b>				<u>\$ 22,426,849,975</u>

**Schedule of Investments at Net Asset Value (NAV) — 2022**

	<b>June 30, 2022</b>	<b>Unfunded Commitments</b>	<b>Redemption Frequency</b>	<b>Redemption Notice</b>
<b>Commingled European loan</b>	\$ 92,340,000	\$	Daily	30 days
<b>Commingled international equities</b>	1,590,053,281		Daily	1-30 days
<b>Commingled domestic equities</b>	342,732,216		Daily	1-30 days
<b>Private equity</b>				
Open-ended*	441,730,035	87,667,046	Quarterly, annually	90 days
Closed-ended	1,367,065,169	1,218,309,199	N/A	N/A
<b>Private real estate</b>				
Open-ended	942,585,092	100,000,000	Quarterly	45-90 days
Closed-ended	348,922,772	554,548,963	N/A	N/A
<b>Private opportunistic credit</b>				
Open-ended	603,419,252	360,000,000	Semiannually	75 days
Closed-ended	210,048,321	75,412,097	N/A	N/A
<b>Total investments at NAV</b>	<u>\$ 5,938,896,138</u>			

\*Regarding the open-ended private equity, a few restrictions remain that would prevent redemption at this time. In the open-ended private real estate category, \$100 million will remain locked up until April 2023.

**Retirement Annuity Trust**  
**Schedule of Investments at Fair Value Level — 2021**

	<u>Level 1 Inputs</u>	<u>Level 2 Inputs</u>	<u>Level 3 Inputs</u>	<u>Fair Value</u>
<b>Cash and cash equivalents</b>	\$ 1,065,663,926	\$	\$	\$ 1,065,663,926
<b>Fixed income</b>				
Asset-backed securities		52,495,131		52,495,131
Agency bonds		83,582,255		83,582,255
Commercial mortgage-backed securities		24,828,229		24,828,229
Collateralized mortgage obligations		29,963,781		29,963,781
Corporate bonds		1,549,593,040		1,549,593,040
Mortgage-backed securities		141,698,876	615,634	142,314,510
Municipal bonds		313,070,347		313,070,347
U.S. government	1,427,833,920	4,240,163		1,432,074,083
<b>Subtotal</b>	<u>1,427,833,920</u>	<u>2,199,471,822</u>	<u>615,634</u>	<u>3,627,921,376</u>
<b>Equities</b>				
International	1,446,614,691	2,421,167,032		3,867,781,723
U.S.	9,810,964,685			9,810,964,685
<b>Subtotal</b>	<u>11,257,579,376</u>	<u>2,421,167,032</u>		<u>13,678,746,408</u>
<b>Real estate</b>			402,420,072	402,420,072
<b>Timberland</b>			205,100,783	205,100,783
<b>Additional categories</b>				
Corporate bonds	1,621,858	783,993,063	308,661	785,923,582
Corporate loans			250,690,144	250,690,144
<b>Subtotal</b>	<u>1,621,858</u>	<u>783,993,063</u>	<u>250,998,805</u>	<u>1,036,613,726</u>
<b>Total investments at fair value level</b>	\$ 13,752,699,080	\$ 5,404,631,917	\$ 859,135,294	\$ 20,016,466,291
<b>At NAV</b>				
Commingled European loan funds				\$ 100,670,000
Commingled international equity funds				1,958,333,430
Commingled domestic equity funds				431,468,825
Private equity funds				1,549,761,484
Private real estate funds				1,003,469,508
Private timber funds				3,270,970
Private opportunistic credit funds				666,169,453
<b>Total investments measured at NAV</b>				<u>5,713,143,670</u>
<b>Total investments at fair value</b>				<u><u>\$ 25,729,609,961</u></u>

**Health Insurance Trust**

**Schedule of Investments at Fair Value Level — 2022**

	<u>Level 1 Inputs</u>	<u>Level 2 Inputs</u>	<u>Level 3 Inputs</u>	<u>Fair Value</u>
<b>Cash and cash equivalents</b>	\$ 67,213,821	\$	\$	\$ 67,213,821
<b>Fixed income</b>				
Agency bonds		969,520		969,520
Collateralized mortgage obligations		885,759		885,759
Corporate bonds		89,972,254		89,972,254
Mortgage-backed securities		5,087,374		5,087,374
Municipal bonds		9,718,049		9,718,049
U.S. government	37,651,068			37,651,068
<b>Subtotal</b>	37,651,068	106,632,956		144,284,024
<b>Equities</b>				
Global		1,003,875,627		1,003,875,627
International	2,888,554			2,888,554
U.S.	88,497,979			88,497,979
<b>Subtotal</b>	91,386,533	1,003,875,627		1,095,262,160
<b>Additional categories</b>				
Corporate bonds	(1,396)	173,311,116	13,612	173,323,332
Corporate loans			62,534,249	62,534,249
U.S. equity	6,334,819			6,334,819
<b>Subtotal</b>	6,333,423	173,311,116	62,547,861	242,192,400
<b>Total investments at fair value level</b>	\$ 202,584,845	\$ 1,283,819,699	\$ 62,547,861	\$ 1,548,952,405
<b>At NAV</b>				
Private equity funds				\$ 204,919,107
Private opportunistic credit funds				129,749,917
Private real estate funds				150,214,503
<b>Total investments measured at NAV</b>				484,883,527
<b>Total investments at fair value</b>				<u>\$ 2,033,835,932</u>

**Schedule of Investments at NAV — 2022**

	<b>June 30, 2022</b>	<b>Unfunded Commitments</b>	<b>Redemption Frequency</b>	<b>Redemption Notice</b>
<b>Private real estate</b>				
Open-ended	\$ 74,491,211	\$ 10,000,000	Quarterly	45-90 days
Closed-ended	75,723,292	92,011,244	N/A	N/A
<b>Private equity</b>				
Closed-ended	204,919,107	184,942,200	N/A	N/A
<b>Private opportunistic credit</b>				
Open-ended	106,871,681		Semiannually	75 days
Closed-ended	22,878,236	10,521,502	N/A	N/A
<b>Total investments at NAV</b>	<u>\$ 484,883,527</u>			

\*Regarding the open-ended real estate, a few restrictions remain that would prevent redemption at this time. One fund has \$10 million that will remain locked up until April 2023.

**Health Insurance Trust**  
**Schedule of Investments at Fair Value Level — 2021**

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Fair Value</u>
<b>Cash and cash equivalents</b>	\$ 157,506,899	\$	\$	\$ 157,506,899
<b>Fixed income</b>				
Agency bonds		999,010		999,010
Collateralized mortgage obligations		1,032,455		1,032,455
Corporate bonds		96,902,165		96,902,165
Mortgage-backed securities		3,896,465		3,896,465
Municipal bonds		10,444,319		10,444,319
U.S. government	41,897,387			41,897,387
<b>Subtotal</b>	41,897,387	113,274,414		155,171,801
<b>Equities</b>				
Global		1,104,324,500		1,104,324,500
International	12,176,350			12,176,350
U.S.	158,110,014			158,110,014
<b>Subtotal</b>	170,286,364	1,104,324,500		1,274,610,864
<b>Additional categories</b>				
Corporate bonds	212,113	173,461,928		173,674,041
Corporate loans			64,699,560	64,699,560
U.S. equity	7,584,288			7,584,288
<b>Subtotal</b>	7,796,401	173,461,928	64,699,560	245,957,889
<b>Total investments at fair value level</b>	\$ 377,487,051	\$ 1,391,060,842	\$ 64,699,560	\$ 1,833,247,453
<b>At NAV</b>				
Private equity funds				\$ 170,660,050
Private real estate funds				111,459,521
Private opportunistic credit funds				104,033,282
<b>Total investments measured at NAV</b>				386,152,853
<b>Total investments at fair value</b>				<u>\$ 2,219,400,306</u>

**Life Insurance Trust**

**Schedule of Investments at Fair Value Level — 2022**

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Fair Value</u>
<b>Cash and cash equivalents</b>	\$ 8,345,378	\$	\$	\$ 8,345,378
<b>Fixed income</b>				
Corporate bonds		7,516,401		7,516,401
Mortgage-backed securities		286,793		286,793
Municipal bonds		2,478,748		2,478,748
U.S. government	7,590,127			7,590,127
<b>Subtotal</b>	<u>7,590,127</u>	<u>10,281,942</u>		<u>17,872,069</u>
<b>Equities</b>				
International	253,063	16,995,009		17,248,072
U.S.	30,815,516			30,815,516
<b>Subtotal</b>	<u>31,068,579</u>	<u>16,995,009</u>		<u>48,063,588</u>
<b>Additional categories</b>				
Corporate bonds				—
U.S. equity	680,854			680,854
<b>Subtotal</b>	<u>680,854</u>			<u>680,854</u>
<b>Total investments at fair value level</b>	<u>\$ 47,684,938</u>	<u>\$ 27,276,951</u>	<u>\$</u>	<u>\$ 74,961,889</u>
<b>At NAV</b>				
Private equity funds				\$ 3,283,908
Private real estate funds				7,489,602
Private opportunistic credit funds				2,130,839
<b>Total investments measured at NAV</b>				<u>12,904,349</u>
<b>Total investments at fair value</b>				<u>\$ 87,866,238</u>

**Schedule of Investments at NAV — 2022**

	<u>June 30, 2022</u>	<u>Unfunded Commitments</u>	<u>Redemption Frequency</u>	<u>Redemption Notice</u>
<b>Private equity</b>				
Closed-ended	\$ 3,283,908	\$ 10,247,585	N/A	N/A
<b>Private real estate</b>				
Closed-ended	1,351,382	461,759	N/A	N/A
Open-ended	6,138,220	\$ 500,000	Quarterly	45 days
<b>Private opportunistic credit</b>				
Open-ended	2,130,839	252,000	Semiannually	75 days
<b>Total investments at NAV</b>	<u>\$ 12,904,349</u>			

\*Regarding the open-ended real estate, a few restrictions remain that would prevent redemption at this time. One fund has \$500,000 that will remain locked up until April 2023.

**Life Insurance Trust**  
**Schedule of Investments at Fair Value Level — 2021**

	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Fair Value</b>
<b>Cash and cash equivalents</b>	\$ 9,405,976	\$	\$	\$ 9,405,976
<b>Fixed income</b>				
Corporate bonds		8,494,982		8,494,982
Mortgage-backed securities		399,987		399,987
Municipal bonds		2,919,720		2,919,720
U.S. government	8,228,565			8,228,565
<b>Subtotal</b>	<u>8,228,565</u>	<u>11,814,689</u>		<u>20,043,254</u>
<b>Equities</b>				
International	1,066,549	24,250,015		25,316,564
U.S.	42,964,768			42,964,768
<b>Subtotal</b>	<u>44,031,317</u>	<u>24,250,015</u>		<u>68,281,332</u>
<b>Additional Categories</b>				
Corporate bonds		5,586		5,586
U.S. equity	819,345			819,345
<b>Subtotal</b>	<u>819,345</u>	<u>5,586</u>		<u>824,931</u>
<b>Total investments at fair value level</b>	<u>\$ 62,485,203</u>	<u>\$ 36,070,290</u>	<u>\$</u>	<u>\$ 98,555,493</u>
<b>At NAV</b>				
Private equity funds				\$ 1,420,801
Private real estate funds				5,181,114
Private opportunistic credit funds				1,724,422
<b>Total investments measured at NAV</b>				<u>8,326,337</u>
<b>Total investments at fair value</b>				<u><u>\$ 106,881,830</u></u>



**Securities Lending**

KRS 161.430 empowers the board with fiduciary responsibility for TRS funds. The system operates a securities lending program in which it temporarily lends securities to qualified agents in exchange for a net fee and high-quality collateral. The types of securities lent are U.S. government and agency securities; selected domestic bonds; and domestic and international stocks. TRS's custodian, BNYM, acts as lending agent in exchanging securities for collateral. The collateral has a value of not less than 102% of the fair value of the lent securities, plus any accrued, unpaid distributions. The collateral may consist of both cash and non-cash collateral. The non-cash collateral may include, but not be limited to, debt obligations and securities, equity securities, corporate bonds and convertible securities.

Securities lending transactions are accounted for in accordance with GASB Statement No. 28. During the year ended June 30, 2022, only the Retirement Annuity Trust fund and the Life Insurance Trust fund had securities lending transactions. The following schedules detail the net income earned in the Retirement Annuity Trust fund and the Life Insurance Trust fund from securities lending for the fiscal years ended June 30, 2022, and 2021.

	<b>Securities Lending Net Earnings</b>			
	<b>Retirement Annuity*</b>		<b>Life Insurance</b>	
	<b>2022</b>	<b>2021</b>	<b>2022</b>	<b>2021</b>
Gross earnings (interest and fees)	\$4,029,726	\$2,375,356	\$90,539	\$54,130
Gross borrower rebates	2,094,160	1,556,370	9,485	20,186
Bank fees	(1,836,957)	(1,179,337)	(30,000)	(22,287)
<b>Net earnings</b>	<b>\$4,286,929</b>	<b>\$2,752,389</b>	<b>\$70,024</b>	<b>\$52,029</b>

\*This schedule includes the Losey Scholarship fund.

Cash collateral is invested in guaranteed, short-term obligations of the U.S. government, select government agencies and repurchase agreements with qualified agents. TRS cannot pledge or sell collateral securities received unless the borrower defaults. BNYM as the lending agent also indemnifies TRS from any financial loss associated with a borrower's default and collateral inadequacy. The Statement of Fiduciary Net Position does not report securities lending transactions collateralized by letters of credit or by securities that the governmental entity does not have the ability to pledge or sell, unless the borrower defaults.

As of June 30, 2022, the average days to maturity for loans in the Retirement Annuity Trust was one day, and the weighted average investment maturity of cash collateral investments was one day. The trust had no credit risk exposure to borrowers because the amounts owed to borrowers exceeded the amounts the borrowers owed the trust, and no losses resulted during the period.

Security lending programs can entail interest rate risk and credit risk. TRS minimizes interest rate risk by limiting the term of cash collateral investments to several days.

The credit risk is controlled by investing cash collateral in securities with qualities similar to the credit worthiness of lent securities.

The following tables present the fair value of the underlying securities and the value of the collateral pledged at June 30, 2022, and 2021.

**Retirement Annuity Trust**

**2022**

Type of Securities Lent	Fair Value	Cash Collateral Received	Non-Cash Collateral Value Received	Total Collateral Received
Fixed income	\$ 162,749,533	\$ 22,472,768	\$ 143,350,952	\$ 165,823,720
Equities	1,082,537,400	925,265,090	199,439,318	\$ 1,124,704,408
Total	<u>\$ 1,245,286,933</u>	<u>\$ 947,737,858</u>	<u>\$ 342,790,270</u>	<u>\$ 1,290,528,128</u>

**2021**

Type of Securities Lent	Fair Value	Cash Collateral Received	Non-Cash Collateral Value Received	Total Collateral Received
Fixed income	\$ 321,661,902	\$ 105,751,464	\$ 221,730,420	\$ 327,481,884
Equities	2,042,042,378	1,490,267,850	604,329,344	\$ 2,094,597,194
Total	<u>\$ 2,363,704,280</u>	<u>\$ 1,596,019,314</u>	<u>\$ 826,059,764</u>	<u>\$ 2,422,079,078</u>

**Life Insurance Trust**

**2022**

Type of Securities Lent	Fair Value	Cash Collateral Received	Non-Cash Collateral Value Received	Total Collateral Received
Fixed income	\$ 586,917	\$	\$ 588,343	\$ 588,343
Equities	27,389,601	21,869,913	6,578,936	\$ 28,448,849
Total	<u>\$ 27,976,518</u>	<u>\$ 21,869,913</u>	<u>\$ 7,167,279</u>	<u>\$ 29,037,192</u>

**2021**

Type of Securities Lent	Fair Value	Cash Collateral Received	Non-Cash Collateral Value Received	Total Collateral Received
Fixed income	\$ 2,752,590	\$	\$ 2,804,795	\$ 2,804,795
Equities	32,939,807	14,017,229	19,810,303	\$ 33,827,532
Total	<u>\$ 35,692,397</u>	<u>\$ 14,017,229</u>	<u>\$ 22,615,098</u>	<u>\$ 36,632,327</u>

**Annual Money-Weighted Rate of Return**

A money-weighted rate of return is an expression of investment performance that is net of TRS's investment fees and expenses, adjusted for the changing amounts actually invested. The following table reflects the money-weighted rates of return.

**Annual Rate of Return Net of Investment Fees and Expenses**

	2022	2021
Retirement Annuity Trust	(10.91)%	29.57 %
Health Insurance Trust	(9.70)%	31.10 %
Life Insurance Trust	(14.96)%	28.16 %

**Note 6**

**Retirement Plans for TRS Employees**

Full-time employees of TRS participate in either TRS or Kentucky Employees Retirement System (KERS). Both plans are multiple-employer cost-sharing defined benefit retirement annuity and other postemployment benefits plans. All TRS employees in positions requiring a four-year degree are covered under TRS. The contribution rates and required employer matching are the same as state agency employers in TRS. These rates, the plan description and funding policy are disclosed fully in the notes to the financial statements.

The annual required contributions for TRS employee members in TRS for the fiscal years 2022, 2021 and 2020 were \$1.2 million, \$1 million and \$980,508, respectively. TRS contributed 100% of the required contribution each year.

All other TRS employees are covered under the KERS non-hazardous employees' plan. The plan provides for retirement, disability and death benefits to plan members. Retirement benefits may be extended to beneficiaries of plan members under certain circumstances. Per KRS 61.565(3), contribution rates shall be determined by the Kentucky Retirement Systems board (KRS board) on the basis of an annual actuarial valuation. Rates may be amended by the KRS board as needed.

Members of KERS who joined prior to July 1, 2008, are required to contribute 5% of their annual creditable compensation, and members who joined on or after July 1, 2008, contribute 6%. As the employer, TRS is required to contribute the annual actuarially determined rate of the creditable compensation (or the rate approved by legislators). Prior to July 1, 2022, contributions were based on a percentage of creditable compensation. The approved rate for the fiscal year 2021 was 84.43%. Effective July 1, 2021, TRS is required to contribute 10.10% plus a monthly amount determined by the KERS actuary for its own portion of the total unfunded liability over a set period regardless of covered payroll. TRS's total contributions to KERS were \$916,821 and \$992,544 for fiscal years 2022 and 2021. TRS contributed 100% of the required contributions for each year.

**Note 7**

**Description of Other Funds**

**403(B) Tax-Sheltered Annuity Plan**

**Plan Description**

TRS has, in prior years, administered a salary deferral program as permitted by section 403(b) of the Internal Revenue Code. Under this program members were able to voluntarily defer a portion of their compensation within the limits established by the applicable laws and regulations. However, TRS's Board of Trustees determined that the cost of providing the necessary services

to assure continuing compliance with these laws and regulations was not economically feasible due to the limited participation in the program by TRS's members. The board decided, therefore, to discontinue offering the program as of April 30, 1997. Members who were not receiving annuities from their account as of April 30, 1997, were able to transfer their respective accounts directly into other tax-sheltered plans on a tax-free basis. As of June 30, 2022, the four members who are receiving annuities will continue to receive distributions according to the terms of their respective elections.

### **Basis of Accounting**

The Tax-Sheltered Annuity Plan financial statements are prepared using an accrual basis of accounting. Contributions are no longer being accepted into the plan; therefore, no receivables are recognized.

### **Method Used to Value Investments**

The short-term investments are reported at cost, which approximates fair value.

## **Supplemental Benefit Fund**

The Supplemental Benefit Fund is a qualified governmental excess benefit arrangement as described in Section 415 of the Internal Revenue Code. In accordance with KRS 161.611 and KRS 161.420(8), TRS is authorized to provide a supplemental retirement benefit fund for the sole purpose of enabling the employer to apply the same formula for determining benefits payable to all members of TRS employed by the employer, whose benefits under the system are limited by Section 415 of the Internal Revenue Code of 1986 as amended. Funding of benefits payable under this fund are provided by the employer and are segregated from funds that are maintained by TRS for payment of regular benefits.

## **Junita Losey Scholarship Fund**

Junita Losey, a retired teacher, designated TRS as a residuary beneficiary of her estate and expressed a desire that TRS establish a scholarship program for Kentucky students studying to be teachers. Ms. Losey died in 1997, and her estate provided a scholarship bequest to TRS. The scholarship bequest has at all times been segregated from funds that are maintained by TRS for payment of regular benefits. The board's Scholarship Committee meets each December to consider scholarship standards and administration of the bequest.

## **Note 8**

### **Other Postemployment Benefits (OPEB) — Health Insurance Trust**

#### **Plan Description**

In addition to the retirement annuity plan described in Note 1, KRS 161.675 requires TRS to provide access to postemployment healthcare benefits for eligible members and dependents. The TRS Health Insurance Trust is funded by employer and member contributions. Changes made to the medical plans provided through the trust may be made by the TRS Board of Trustees, the Kentucky Department of Employee Insurance and the General Assembly.

Medical coverage through TRS is funded by a combination of contributions from employees, the state and other employers. Coverage is provided through an account established pursuant to 26 U.S.C. sec. 401(h) and a 115 trust fund that went into effect on July 1, 2010. The insurance trust fund includes employer and retired member contributions required under KRS 161.550 and KRS 161.675(4)(b).

To be eligible for medical benefits, the member must have retired either for service or disability and a required amount of service credit. The TRS medical plan offers members who are not eligible for Medicare and under age 65 coverage through the Kentucky Employees Health Plan (KEHP) administered by the Kentucky Department of Employee Insurance. Once retired members and

eligible spouses attain age 65 and or are eligible for Medicare, coverage is obtained through the Medicare Eligible Health Plan (MEHP) administered by TRS.

Contributions are made on behalf of TRS retired members toward payment of health insurance premiums. The amount of the member's contribution is based on a table approved by the TRS board. Retired members pay premiums in excess of the monthly contribution. The amount of insurance premiums paid by retirees for fiscal years 2022 and 2021 were \$60.7 million and \$59.5 million, respectively. The Commonwealth of Kentucky bears risk for excess claims expenses that exceed the premium equivalents charged for the KEHP.

At June 30, 2022, TRS insurance covered 41,177 retirees and 6,661 dependents, and at June 30, 2021, TRS insurance covered 41,175 retirees and 6,728 dependents. The medical plan has 202 participating employers with 74,785 and 69,256 active members contributing at June 30, 2022, and 2021, respectively.

Retiree health care premiums and other income received reduces the amount of expenditures reported in the deductions section in the Statement of Changes in Fiduciary Net Position for the Health Insurance Trust. These expenditures are summarized in the following table.

	<b>2022</b>	<b>2021</b>
MEHP group expenditures	\$ 206,386,429	\$ 204,114,382
KEHP group expenditures	106,170,919	106,822,555
Subtotal	312,557,348	310,936,937
Less: amounts paid by retirees	(60,680,394)	(59,507,609)
Less: formulary rebates	(54,158,379)	(51,730,213)
Less: Medicare subsidies and other recovery income	(90,517,136)	(69,050,981)
Net insurance expenditures	\$ 107,201,439	\$ 130,648,134

### Net OPEB Liability of Employers

The net OPEB liability [i.e., the system's liability determined in accordance with GASB Statement No. 74 less the fiduciary net position (FNP)] for the Health Insurance Trust as of June 30, 2022, and 2021 is shown in the following table.

#### Net OPEB Liability of Employers

*(Dollars in thousands)*

Fiscal Year Ending June 30	Total OPEB Liability (TOL)* A	Plan Fiduciary Net Position B	Employers Net OPEB Liability (NOL) (A-B)	Plan Fiduciary Net Position (FNP) as a % of Total OPEB Liability (B/A)	Covered Payroll C	Net OPEB Liability as a % of Covered Payroll [(A-B)/C]
2022	\$ 4,751,706	\$ 2,269,176	\$ 2,482,530	47.8	\$ 3,876,491	64.0
2021	4,446,211	2,300,504	2,145,707	51.7	3,638,905	59.0

\*The TOL includes the additional consideration for the current treatment of KEHP implicit subsidies that may be needed in the future. This is an additional liability from Health Insurance Trust accrued liabilities.

**Actuarial Assumptions**

A summary of the actuarial assumptions as of the latest actuarial valuation follows.

Valuation date	June 30, 2021
Investment rate of return	7.1%, net of OPEB plan investment expense, including inflation
Projected salary increases	3.0 - 7.5%, including wage inflation
Inflation rate	2.5%
Real wage growth	0.25%
Wage inflation	2.75%
Municipal bond index rate	3.37%
Discount rate	7.1%
Single equivalent interest rate	7.1%, net of OPEB plan investment expense, including price inflation
Health care cost trends	
KEHP group	7% for fiscal year 2022 decreasing to an ultimate rate of 4.5% by fiscal year 2032
MEHP group	5.125% for fiscal year 2022* decreasing to an ultimate rate of 4.5% by fiscal year 2025
Medicare Part B premiums	6.97% for fiscal year 2022 with an ultimate rate of 4.5% by 2034

\*Based on known expected increase in Medicare-eligible costs in the year following the valuation date, an increase rate of 20% was used for 2021.

Mortality rates were based on the Pub2010 (Teachers Benefit-Weighted) Mortality Table projected generationally with MP-2020 with various set-forwards, set-backs and adjustments for each of the groups; service, retirees, contingent annuitants, disabled retirees and active members. The demographic actuarial assumptions for retirement, disability incidence, withdrawal, rates of plan participation and rates of plan election used in the June 30, 2021, valuation were based on the results of the most recent actuarial experience study for the system, which covered the five-year period ending June 30, 2020, adopted by the board on September 20, 2021. The remaining actuarial assumptions (e.g., initial per capita costs, health care cost trends) used in the June 30, 2021, valuation of the health trust were based on a review of recent plan experience done concurrently with the June 30, 2021, valuation. The health care cost trend rate assumption was updated for the June 30, 2021, valuation and was shown as an assumption change in the total OPEB liability (TOL) roll-forward while the change in initial per capita claims costs were included with experience in the TOL roll-forward. The Municipal Bond Index Rate used for this purpose is the June average of the Bond Buyer General Obligation 20-year Municipal Bond Index published weekly by the Board of Governors of the Federal Reserve System.

**Target Allocations**

The long-term expected rate of return on OPEB investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

The target allocation and best estimates of arithmetic real rates of return for each major asset class, as provided by TRS's investment consultant, are summarized in the following table.

<b>Asset Class</b>	<b>Target Allocation Percentage</b>	<b>Long-Term Expected Real Rate Percentage of Return</b>
Global equity	58	5.1
Fixed income	9	(0.1)
Real estate	6.5	4.0
Private equity	8.5	6.9
Additional categories: high yield	8	1.7
Other additional categories	9	2.2
Cash	1	(0.3)
Total	100	

### Discount Rate

The discount rate used to measure the TOL as of the measurement date was 7.1%. The projection of cash flows used to determine the discount rate was performed in accordance with GASB Statement No. 74. The projection's basis was an actuarial valuation performed as of June 30, 2021. In addition to the actuarial methods and assumptions of the June 30, 2021, actuarial valuation, the following actuarial methods and assumptions were used in the projection of cash flows:

- Total payroll for the initial projection year consists of the payroll of the active membership present on the valuation date. In subsequent projection years, total payroll was assumed to increase annually at a rate of 2.75%.
- The KEHP group retiree health care costs for members retired on or after July 1, 2010, were assumed to be paid by either the state or the retirees themselves.
- As administrative expenses, other than the administrative fee of \$8.00 per member per month (PMPM) paid to KEHP by TRS, were assumed to be paid in all years by the employer as they come due, they were not considered.
- Cash flows occur midyear.
- Future contributions to the Health Insurance Trust were based upon the contribution rates defined in statute and the projected payroll of active employees. Per KRS 161.540(1)(c).3 and 161.550(5), when the health trust achieves a sufficient funded status, as determined by TRS's actuary, the following health trust statutory contributions are to be decreased, suspended or eliminated:
  - Employee contributions
  - School district and university employer contributions
  - State contributions for KEHP premium subsidies payable to retirees who retire after June 30, 2010

To reflect these adjustments, open group projections were used and assumed an equal, pro rata reduction to the current statutory amounts in the years if the health trust is projected to achieve a funded ratio of 100% or more. Here, the current statutory amounts are adjusted to achieve total contributions equal to the actuarially determined contribution, as determined by the prior year's valuation and in accordance with the health trust's funding policy. As the specific methodology to be used for the adjustments has yet to be determined, there may be differences between the projected results and future experience. This also may include any changes to retiree contributions for KEHP coverage pursuant to KRS 161.675(4)(b).

- In developing the adjustments to the statutory contributions in future years, the following was assumed:
  - Liabilities and cash flows are net of expected retiree contributions and any implicit subsidies attributable to coverage while participating in KEHP.

- For the purposes of developing estimates for new entrants, active headcounts were assumed to remain flat for all future years.

Based on these assumptions, the Health Insurance Trust's FNP was not projected to be depleted.

The FNP projections are based upon the health trust's financial status on the valuation date; the indicated set of methods and assumptions; and the requirements of GASB Statement No. 74. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing basis, reflecting the impact of future members. Therefore, the results of these tests do not necessarily indicate whether or not the health trust will actually run out of money, the financial condition of the trust, or the trust's ability to make benefit payments in future years.

These paragraphs require disclosure of the sensitivity of the NOL to changes in the health care cost trend rates and the discount rate for the Health Insurance Trust. The following exhibits present the NOL of the trust, calculated using the health care cost trend rates, as well as what the trust's NOL would be if it were calculated using a health care cost trend rate that is 1% lower or 1% higher than the current rate. Similarly, the exhibits present the NOL of the trust, calculated using the single equivalent interest rate (SEIR), as well as what the NOL would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current SEIR.

**Schedule of Net OPEB Liability and Health Care Cost Trend Rates 2022**

*(In thousands)*

		<b>Health Care Cost Trend Rates</b>		
		<b>1% Decrease</b>	<b>Current</b>	<b>1% Increase</b>
<b>Discount Rate</b>	<b>1% Increase (8.1%)</b>	\$	\$ 1,959,121	\$ 3,255,435
	<b>Current (7.1%)</b>	1,861,066	2,482,530	3,255,435
	<b>1% Decrease (6.1%)</b>		3,114,745	

**Schedule of Net OPEB Liability and Health Care Cost Trend Rates 2021**

*(In thousands)*

		<b>Health Care Cost Trend Rates</b>		
		<b>1% Decrease</b>	<b>Current</b>	<b>1% Increase</b>
<b>Discount Rate</b>	<b>1% Increase (8.1%)</b>	\$	\$ 1,648,531	\$ 2,876,058
	<b>Current (7.1%)</b>	1,558,870	2,145,707	2,876,058
	<b>1% Decrease (6.1%)</b>		2,747,046	

The TOL of the Health Insurance Trust for 2022 is based upon an actuarial valuation performed as of the valuation date, June 30, 2021. An expected TOL is determined as of June 30, 2022, using standard roll-forward techniques. The roll-forward calculation begins with the TOL, as of June 30, 2021, subtracts the actual benefit payments (net of retiree contributions, if applicable) for the year, applies interest at the discount rate for the year and then adds the annual normal cost (also called the service cost). If applicable, actuarial gains and losses arising from the difference between estimates and actual experience (excluding amounts related to benefit changes and changes in assumptions or other inputs) are reconciled to the TOL as of the measurement date. Last, any changes of assumptions or other inputs are reflected.



The procedure used to determine the TOL of the health trust, as of June 30, 2022, is shown in the following table.

**TOL Roll-Forward 2022**  
(In thousands)

	<u>Expected</u>	<u>Actual</u>
(a) TOL as of June 30, 2021*	\$ 4,446,211	\$ 4,381,853
(b) Actual benefit payments and refunds for July 1, 2021-June 30, 2022	(107,201)	(107,201)
(c) Interest on TOL = [(a) x (0.08)] + [(b) x (0.04)]	311,875	307,305
(d) Service cost for July 1, 2021-June 30, 2022	109,082	109,082
(e) Changes of benefit terms		
(f) Changes of assumptions	60,667	60,667
(g) TOL rolled forward to June 30, 2022 = (a) + (b) + (c) + (d) + (e) + (f)	<u>4,820,634</u>	<u>4,751,706</u>
(h) Difference between expected and actual experience (gain) loss		<u>\$ (68,928)</u>

\*The TOL used in the roll-forward as of June 30, 2021, is calculated using the discount rate as of the prior measurement date.

The TOL of the Health Insurance Trust for 2021 is based upon an actuarial valuation performed as of the June 30, 2020, valuation date. An expected, TOL was determined as of June 30, 2021, using standard roll-forward techniques. The roll-forward calculation begins with the TOL, as of June 30, 2020, subtracts the actual benefit payments (net of retiree contributions, if applicable) for the year, applies interest at the discount rate for the year and then adds the annual normal cost (also called the service cost). If applicable, actuarial gains and losses arising from the difference between estimates and actual experience (excluding amounts related to benefit changes and changes in assumptions or other inputs) are reconciled to the TOL as of the measurement date. Last, any changes of assumptions or other inputs are reflected. The procedure used to determine the TOL of the health trust, as of June 30, 2021, is shown in the following table.

**TOL Roll-Forward 2021**  
(In thousands)

	<u>Expected</u>	<u>Actual</u>
(a) TOL as of June 30, 2020*	\$ 4,140,425	\$ 3,686,043
(b) Actual benefit payments and refunds for July 1, 2020-June 30, 2021	(130,648)	(130,648)
(c) Interest on TOL = [(a) x (0.08)] + [(b) x (0.04)]	326,008	289,658
(d) Service cost for July 1, 2020-June 30, 2021	84,727	84,727
(e) Changes of benefit terms		
(f) Changes of assumptions (updated health care trend)	516,431	516,431
(g) TOL rolled forward to June 30, 2021 = (a) + (b) + (c) + (d) + (e) + (f)	<u>4,936,943</u>	<u>4,446,211</u>
(h) Difference between expected and actual experience (gain) loss		<u>\$ (490,732)</u>

\*The TOL used in the roll-forward as of June 30, 2020, is calculated using the discount rate as of the prior measurement date.

**Note 9**  
**Other Postemployment Benefits (OPEB) — Life Insurance Trust**

**Plan Description**

TRS administers the Life Insurance Trust as provided by KRS 161.655 to provide life insurance benefits to retired and active members. This benefit is financed by actuarially determined contributions from the 202 participating employers. The benefit is \$5,000 for members who are retired for service or disability and \$2,000 for active contributing members.

**Net OPEB Liability of Employers**

The net OPEB liability (NOL) (i.e., the system's liability determined in accordance with GASB Statement No. 74 less the fiduciary net position) for the life insurance fund as of June 30, 2022, and 2021 follows.

**Schedule of Net OPEB Liability of Employers**  
*(Dollars in thousands)*

Fiscal Year Ending June 30	Total OPEB Liability (TOL) A	Plan Fiduciary Net Position B	Employers Net OPEB Liability (NOL) (A-B)	Plan Fiduciary Net Position (FNP) as a % of Total OPEB Liability (B/A)	Covered Payroll C	Net OPEB Liability as a % of Covered Payroll [(A-B)/C]
2022	\$ 119,484	\$ 88,381	\$ 31,103	74.0	\$ 3,876,491	0.8
2021	120,505	107,427	13,078	89.2	3,638,905	0.4

**Actuarial Assumptions**

A summary of the actuarial assumptions as of the latest actuarial valuation is shown below.

Valuation date	June 30, 2021
Investment rate of return	7.1%, net of OPEB plan investment expense, including inflation.
Projected salary increases	3 - 7.5%, including wage inflation
Inflation rate	2.5%
Real wage growth	0.25%
Wage inflation	2.75%
Municipal bond index rate	2.13%
Discount rate	7.1%
Single equivalent interest rate	7.1%, net of OPEB plan investment expense, including price inflation

Mortality rates were based on the Pub2010 (Teachers Benefit-Weighted) Mortality Table projected generationally with MP-2020 with various set-forwards set-backs and adjustments for each of the groups: service, retirees, contingent annuitants, disabled retirees and active members. The demographic actuarial assumptions for retirement, disability incidence, withdrawal, rates of plan participation and rates of plan election used in the June 30, 2021, valuation were based on the results of the most recent actuarial experience study for the system, which covered the five-year period ending June 30, 2020, adopted by the board on September 20, 2021. The Municipal Bond Index Rate used for this purpose is the June average of the Bond Buyer General Obligation 20-year Municipal Bond Index published weekly by the Board of Governors of the Federal Reserve System.

**Target Allocations**

The long-term expected rate of return on OPEB investments was determined using a log-normal distribution analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class, as provided by TRS's investment consultant, are summarized in the following table.

<b>Asset Class</b>	<b>Target Allocation Percentage</b>	<b>Long-Term Expected Real Rate Percentage of Return</b>
U.S. equity	40	4.4
International equity	23	5.6
Fixed income	18	(0.1)
Real estate	6	4.0
Private equity	5	6.9
Additional Categories	6	2.1
Cash	2	(0.3)
<b>Total</b>	<b>100</b>	

**Discount Rate**

The discount rate used to measure the total OPEB liability (TOL) as of the measurement date was 7.1%. The projection of cash flows used to determine the discount rate was performed in accordance with GASB Statement No. 74. The projection's basis was an actuarial valuation performed as of June 30, 2021. In addition to the actuarial methods and assumptions of the June 30, 2021, actuarial valuation, the following actuarial methods and assumptions were used in the projection of the life insurance cash flows:

- Total payroll for the initial projection year consists of the payroll of the active membership present on the valuation date. In subsequent projection years, total payroll was assumed to increase annually at a rate of 2.75%.
- The employer will contribute the ADC in accordance with the Life Insurance Trust's funding policy (Schedule E) determined by a valuation performed on a date two years prior to the beginning of the fiscal year in which the ADC applies.
- As administrative expenses were assumed to be paid in all years by the employer as they come due, they were not considered.
- Active employees do not contribute to the plan.
- Cash flows occur midyear.

Based on these assumptions, the Life Insurance Trust's fiduciary net position (FNP) was not projected to be depleted.

The FNP projections are based upon the Life Insurance Trust's financial status on the valuation date; the indicated set of methods and assumptions; and the requirements of GASB Statement No. 74. As such, the FNP projections are not reflective of the cash flows and asset accumulations that would occur on an ongoing basis, reflecting the impact of future members. Therefore, the results of these tests do not necessarily indicate whether the Life Insurance Trust actually will run out of money, the financial condition of the trust, or the trust's ability to make benefit payments in future years.

These paragraphs require disclosure of the sensitivity of the NOL to changes the discount rate for the Life Insurance Trust. The schedules below present the NOL of the trust calculated using the SEIR, as well as what the trust's NOL would be if it were calculated using a discount rate that is 1% lower or 1% higher than the current SEIR.

**Schedule of Net OPEB Liability 2022**

*(In thousands)*

<b>1% Decrease (6.1%)</b>	<b>Current Discount Rate (7.1%)</b>	<b>1% Increase (8.1%)</b>
\$ 48,059	\$ 31,103	\$ 17,390

**Schedule of Net OPEB Liability 2021**

*(In thousands)*

<b>1% Decrease (6.1%)</b>	<b>Current Discount Rate (7.1%)</b>	<b>1% Increase (8.1%)</b>
\$ 30,217	\$ 13,078	\$ (800)

The TOL of the Life Insurance Trust for 2022 is based upon an actuarial valuation performed as of the valuation date, June 30, 2021. An expected TOL is determined as of June 30, 2022, using standard roll-forward techniques. The roll-forward calculation begins with the TOL, as of June 30, 2021, subtracts the actual benefit payments (net of retiree contributions, if applicable) for the year, applies interest at the discount rate for the year and then adds the annual normal cost (also called the service cost). If applicable, actuarial gains and losses arising from the difference between estimates and actual experience (excluding amounts related to benefit changes and changes in assumptions or other inputs) are reconciled to the TOL as of the measurement date. Last, any changes of assumptions or other inputs are reflected. The procedure used to determine the TOL of the Life Insurance Trust, as of June 30, 2022, is shown in the following table.

**TOL Roll-Forward 2022**

*(In thousands)*

	<b>Expected</b>	<b>Actual</b>
(a) TOL as of June 30, 2021*	\$ 120,505	\$ 116,656
(b) Actual benefit payments and refunds for July 1, 2021-June 30, 2022	(6,178)	(6,178)
(c) Interest on TOL = [(a) x (0.071)] + [(b) x (0.0355)]	8,337	8,063
(d) Service cost for July 1, 2021-June 30, 2022	943	943
(e) Changes of benefits terms		
(f) Changes of assumptions		
(g) TOL rolled forward to June 30, 2022 =(a)+(b)+(c)+(d)+(e)+(f)	\$ 123,607	\$ 119,484
(h) Difference between expected and actual experience (gain) loss		\$ (4,123)

\*The TOL used in the roll-forward as of June 30, 2021, is calculated using the discount rate as of the prior measurement date.

The TOL of the Life Insurance Trust for 2021 is based upon an actuarial valuation performed as of the June 30, 2020, valuation date. An expected TOL is determined as of June 30, 2021, using standard roll-forward techniques. The roll-forward calculation begins with the TOL, as of June 30, 2020, subtracts the actual benefit payments (net of retiree contributions, if applicable) for the year, applies interest at the discount rate for the year and then adds the annual normal cost (also called the service cost). If applicable, actuarial gains and losses arising from the difference between estimates and actual experience (excluding amounts related to benefit changes and changes in assumptions or other inputs) are reconciled to the TOL as of the measurement date. Last, any changes of assumptions or other inputs are reflected. The procedure used to determine the TOL of the trust, as of June 30, 2021, is shown in the following table.

**TOL Roll-Forward 2021**  
*(In thousand)*

	<u>Expected</u>	<u>Actual</u>
(a) TOL as of June 30, 2020*	\$ 122,080	\$ 122,194
(b) Actual benefit payments and refunds for July 1, 2020-June 30, 2021	(6,120)	(6,120)
(c) Interest on TOL = [(a) x (0.075)] + [(b) x (0.0375)]	8,926	8,934
(d) Service cost for July 1, 2020-June 30, 2021	1,289	1,289
(e) Changes of benefits terms		
(f) Changes of assumptions	(5,792)	(5,792)
(g) TOL rolled forward to June 30, 2021 = (a)+(b)+(c)+(d)+(e)+(f)	\$ 120,383	\$ 120,505
(h) Difference between expected and actual experience (gain) loss		<u>\$ 122</u>

\*The TOL used in the roll-forward as of June 30, 2020, is calculated using the discount rate as of the prior measurement date.

## Required Supplementary Information

### Retirement Annuity Trust

#### Schedule of Changes in Net Pension Liability

(In thousands)

	2022	2021	2020	2019	2018
<b>Total pension liability</b>					
Service cost	\$ 621,689	\$ 563,188	\$ 552,625	\$ 542,970	\$ 1,104,102
Interest	2,724,644	2,581,630	2,517,671	2,448,387	2,063,109
Difference between expected and actual experience	42,986	32,475	10,661	93,650	(222,473)
Changes of assumptions	—	3,072,848	—	—	(14,167,315)
Benefit payments	(2,305,853)	(2,235,241)	(2,167,239)	(2,094,364)	(2,004,617)
Refunds of contributions	(26,745)	(25,374)	(28,472)	(32,403)	(31,073)
<b>Net change in total pension liability</b>	1,056,721	3,989,526	885,246	958,240	(13,258,267)
Total pension liability - beginning	39,541,567	35,552,041	34,666,795	33,708,555	46,966,822
Total pension liability - ending (a)	40,598,288	39,541,567	35,552,041	34,666,795	33,708,555
<b>Plan net position</b>					
Contributions - state	1,570,118	1,060,257	1,048,193	1,051,452	969,698
Contributions - other	109,467	86,720	86,088	71,583	78,973
Contributions - members	356,967	327,833	324,664	321,172	319,127
Net investment income	(2,727,776)	6,017,186	1,094,023	1,085,189	1,953,214
Benefit payments	(2,305,853)	(2,235,241)	(2,167,239)	(2,094,364)	(2,004,617)
Administrative expense	(12,005)	(12,602)	(12,167)	(12,352)	(11,388)
Refunds of contributions	(26,745)	(25,374)	(28,472)	(32,403)	(31,073)
<b>Net change in plan net position</b>	(3,035,827)	5,218,779	345,090	390,277	1,273,934
Plan net position - beginning	25,935,779	20,717,000	20,371,910	19,981,633	18,707,699
Plan net position - ending (b)	22,899,952	25,935,779	20,717,000	20,371,910	19,981,633
<b>Net pension liability - ending (a)-(b)</b>	<u>\$ 17,698,336</u>	<u>\$ 13,605,788</u>	<u>\$ 14,835,041</u>	<u>\$ 14,294,885</u>	<u>\$ 13,726,922</u>

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.

See accompanying independent auditor's report.

**Schedule of Changes in Net Pension Liability**

*(In thousands)*

	<u>2017</u>	<u>2016</u>	<u>2015</u>	<u>2014</u>
<b>Total pension liability</b>				
Service cost	\$ 1,332,587	\$ 1,120,893	\$ 1,015,080	\$ 1,002,338
Interest	1,964,107	2,027,457	2,029,372	1,956,610
Difference between expected and actual experience	199,471	(58,035)		
Changes of assumptions	(2,321,327)	4,030,834	1,511,960	(353,043)
Benefit payments	(1,918,612)	(1,833,199)	(1,741,456)	(1,654,376)
Refunds of contributions	<u>(26,305)</u>	<u>(27,748)</u>	<u>(23,033)</u>	<u>(25,462)</u>
<b>Net change in total pension liability</b>	(770,079)	5,260,202	2,791,923	926,067
Total pension liability - beginning	<u>47,736,901</u>	<u>42,476,699</u>	<u>39,684,776</u>	<u>38,758,709</u>
Total pension liability - ending (a)	46,966,822	47,736,901	42,476,699	39,684,776
<b>Plan net position</b>				
Contributions - state	981,417	484,987	480,073	483,330
Contributions - other employers	79,303	80,468	79,506	79,996
Contributions - members	313,625	313,044	308,160	304,982
Net investment income	2,475,753	(245,215)	862,179	2,803,249
Benefit payments	(1,918,612)	(1,833,199)	(1,741,456)	(1,654,376)
Administrative expense	(10,314)	(8,636)	(8,869)	(7,956)
Refunds of contributions	<u>(26,305)</u>	<u>(27,748)</u>	<u>(23,033)</u>	<u>(25,462)</u>
<b>Net change in plan net position</b>	1,894,867	(1,236,299)	(43,440)	1,983,763
Plan net position - beginning	<u>16,812,832</u>	<u>18,049,131</u>	<u>18,092,571</u>	<u>16,108,808</u>
Plan net position - ending (b)	<u>18,707,699</u>	<u>16,812,832</u>	<u>18,049,131</u>	<u>18,092,571</u>
<b>Net pension liability - ending (a)-(b)</b>	<u>\$ 28,259,123</u>	<u>\$ 30,924,069</u>	<u>\$ 24,427,568</u>	<u>\$ 21,592,205</u>

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.  
See accompanying independent auditor's report.

**Net Pension Liability**

The total pension liability contained in the following schedule was provided by TRS's actuary, Cavanaugh Macdonald Consulting. The net pension liability is measured as the total pension liability less the amount of the fiduciary net position of the system.

**Changes of Benefit Terms.** A new benefit tier was added for members joining the system on and after Jan. 1, 2022.

**Changes of assumptions.** In the 2020 experience study, rates of withdrawal, retirement, disability, mortality and salary increase were adjusted to more closely reflect actual experience. The expectation of mortality was changed to the Pub2010 Mortality Tables (Teachers Benefit-Weighted) projected generationally with MP-2020 with various set forwards, set-backs and adjustments for each of the groups: service retirees, contingent annuitants, disabled retirees and actives. The assumed long-term investment rate of return was changed from 7.5% to 7.1% and the price inflation assumption was lowered from 3% to 2.5%.

In the 2016 valuation, rates of withdrawal, retirement, disability, mortality and salary increase were adjusted to more closely reflect actual experience. In the 2016 valuation and later, the expectation of retired life mortality was changed to the RP-2000 Mortality Tables projected to 2025 with projection scale BB, set forward two year for males and one year for females rather than the RP-2000 Mortality Tables projected to 2020 with projection scale AA, which was used prior to 2016.

In the 2011 valuation, rates of withdrawal, retirement, disability and mortality were adjusted to more closely reflect actual experience. In the 2011 valuation and later, the expectation of retired life mortality was changed to the RP-2000 Mortality Tables projected to 2020 with projection scale AA, set back one year for females rather than the 1994 Group Annuity Mortality Tables which was used prior to 2016. For the 2011 valuation through the 2013 valuation, an interest smoothing methodology was used to calculate liabilities for purposes of determining the actuarially determined contributions.

**Schedule of Net Pension Liability**

*(Dollars in thousands)*

	<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>
Total pension liability	\$40,598,288	\$39,541,567	\$35,552,041	\$34,666,795	\$33,708,555
Plan net position	22,899,952	25,935,779	20,717,000	20,371,910	19,981,633
Net pension liability	<u>17,698,336</u>	<u>13,605,788</u>	<u>14,835,041</u>	<u>14,294,885</u>	<u>13,726,922</u>
Ratio of plan net position to total pension liability	56.41 %	65.59 %	58.27 %	58.76 %	59.28 %
Covered payroll	\$ 3,876,491	\$ 3,638,905	\$ 3,569,262	\$ 3,497,216	\$ 3,455,660
Net pension liability as a percentage of covered payroll	456.56 %	373.90 %	415.61 %	408.75 %	397.23 %
	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	
Total pension liability	\$46,966,822	\$47,736,901	\$42,476,699	\$39,684,776	
Plan net position	18,707,699	16,812,832	18,049,131	18,092,571	
Net pension liability	<u>28,259,123</u>	<u>30,924,069</u>	<u>24,427,568</u>	<u>21,592,205</u>	
Ratio of plan net position to total pension liability	39.83 %	35.22 %	42.49 %	45.59 %	
Covered payroll	\$ 3,415,432	\$ 3,390,539	\$ 3,455,008	\$ 3,317,422	
Net pension liability as a percentage of covered payroll	827.40 %	912.07 %	707.02 %	650.87 %	

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.

See accompanying independent auditor's report.



**Schedule of Employer Contributions**  
*(Dollars in thousands)*

<b>Fiscal Year Ended June 30</b>	<b>Covered Payroll</b>	<b>Actual Employer Contributions</b>	<b>Actuarially Determined Employer Contributions</b>	<b>Annual Contribution Excess (Deficiency)</b>	<b>Actual Contributions as a % of Covered Payroll</b>
2022	\$ 3,876,491	\$ 1,679,585	\$ 1,200,385	\$ 479,200	43.33
2021	3,638,905	1,146,977	1,146,977		31.52
2020	3,569,262	1,134,281	1,134,281		31.78
2019	3,497,216	1,123,035	1,123,035		32.11
2018	3,455,660	1,048,671	1,083,466	(34,795)	30.35
2017	3,415,432	1,060,720	1,076,617	(15,897)	31.06
2016	3,390,539	565,455	999,270	(433,815)	16.68
2015	3,455,008	559,579	913,654	(354,075)	16.20
2014	3,317,422	563,326	823,446	(260,120)	16.98
2013	3,310,710	568,233	802,985	(234,752)	17.16

See accompanying independent auditor's report.

**Actuarial Methods and Assumptions**

The actuarially determined contribution rates in the Schedule of Employer Contributions are calculated as of June 30 on the three years prior to the end of the fiscal year in which contributions are reported. The following actuarial methods and assumptions were used to determine contribution rates reported in the most recent year of the schedule.

Actuarial cost method	Entry age
Amortization period	Level percentage of payroll, closed
Remaining amortization period	25.4 years
Asset valuation method	5-year smoothed fair value
Inflation	3.0%
Salary increase	3.5 to 7.3%, including inflation
Investment rate of return	7.5%, net of pension plan investment expense, including inflation

**Schedule of Investment Returns**

Percentage shown is annual money-weighted rate of return, net of investment expense.

<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>
(10.91)%	29.57%	5.47%	5.6%	11%	15.00%	(1.32)%	4.96%	17.95%

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.  
 See accompanying independent auditor's report.

**Health Insurance Trust**

**Schedule of Changes in the Net OPEB Liability**  
*(In thousands)*

	<b>2022</b>	<b>2021</b>	<b>2020</b>
<b>Total OPEB liability</b>			
Service cost	\$ 109,082	\$ 84,727	\$ 82,572
Interest	311,875	326,008	341,430
Changes of benefit terms			
Difference between expected and actual experience	(68,928)	(490,732)	(585,090)
Changes of assumptions	60,667	516,431	106,575
Benefit payments	(107,201)	(130,648)	(145,869)
<b>Net change in OPEB liability</b>	<b>305,495</b>	<b>305,786</b>	<b>(200,382)</b>
Total OPEB liability - beginning	4,446,211	4,140,425	4,340,807
Total OPEB liability - ending (a)	4,751,706	4,446,211	4,140,425
<b>Plan net position</b>			
Contributions - state	31,349	78,217	77,191
Contributions - other employers	120,416	106,670	107,434
Contributions - active members	145,682	128,117	133,471
Net investment income	(219,500)	503,201	32,475
Benefit payments	(107,201)	(130,648)	(145,869)
Administrative expense	(2,074)	(1,728)	(2,047)
Other			
<b>Net change in plan net position</b>	<b>(31,328)</b>	<b>683,829</b>	<b>202,655</b>
Plan net position - beginning	2,300,504	1,616,675	1,414,020
Plan net position - ending (b)	2,269,176	2,300,504	1,616,675
<b>Net OPEB liability - ending (a) - (b)</b>	<b>\$ 2,482,530</b>	<b>\$ 2,145,707</b>	<b>\$ 2,523,750</b>

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.

See accompanying independent auditor's report.

**Schedule of Changes in the Net OPEB Liability**  
*(In thousands)*

	<b>2019</b>	<b>2018</b>	<b>2017</b>
<b>Total OPEB liability</b>			
Service cost	\$ 93,792	\$ 95,382	\$ 95,625
Interest	366,254	355,491	333,990
Changes of benefit terms			8,926
Difference between expected and actual experience	(661,228)	(210,450)	
Changes of assumptions	45,659	56,483	
Benefit payments	(163,666)	(161,082)	(178,500)
<b>Net change in OPEB liability</b>	<b>(319,189)</b>	<b>135,824</b>	<b>260,041</b>
Total OPEB liability - beginning	4,659,996	4,524,172	4,264,131
Total OPEB liability - ending (a)	4,340,807	4,659,996	4,524,172
<b>Plan net position</b>			
Contributions - state	76,382	80,959	75,497
Contributions - other employers	106,764	106,143	104,879
Contributions - active members	131,677	130,778	128,819
Net investment income	74,385	76,841	95,453
Benefit payments	(163,666)	(161,082)	(178,500)
Administrative expense	(1,803)	(1,748)	(1,539)
Other			
<b>Net change in plan net position</b>	<b>223,739</b>	<b>231,891</b>	<b>224,609</b>
Plan net position - beginning	1,190,281	958,390	733,781
Plan net position - ending (b)	1,414,020	1,190,281	958,390
<b>Net OPEB liability - ending (a) - (b)</b>	<b>\$ 2,926,787</b>	<b>\$ 3,469,715</b>	<b>\$ 3,565,782</b>

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.  
See accompanying independent auditor's report.

**Net OPEB Liability**

The net OPEB liability contained in the following schedule was provided by TRS's actuary, Cavanaugh Macdonald Consulting. The net OPEB liability is measured as the total OPEB liability less the amount of the fiduciary net position of the system.

**Changes of benefit terms.**

June 30, 2022 (Valuation Date: June 30, 2021)

- A new benefit tier was added for members joining the system on and after Jan. 1, 2022. A description of the benefit provisions applicable to these members can be found in Schedule B of this report.

**Changes of assumptions.**

June 30, 2022 (Valuation Date: June 30, 2021)

- The health care trend rates were updated to reflect future anticipated experience.

**Schedule of Net OPEB Liability**

*(Dollars in thousands)*

Valuation Year June 30	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability	Plan Fiduciary Net Position as a % of Total OPEB Liability	Covered Payroll	Net OPEB Liability as a % of Covered Payroll
2022	\$ 4,751,706	\$ 2,269,176	\$ 2,482,530	47.8	\$ 3,876,491	64.0
2021	4,446,211	2,300,504	2,145,707	51.7	3,638,905	59.0
2020	4,140,425	1,616,675	2,523,750	39.1	3,569,262	70.7
2019	4,340,807	1,414,020	2,926,787	32.6	3,497,216	83.7
2018	4,659,996	1,190,281	3,469,715	25.5	3,455,660	100.4
2017	4,524,172	958,390	3,565,782	21.2	3,415,432	104.4

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.  
 See accompanying independent auditor's report.

**Schedule of Employer Contributions**

*GASB 74 (Dollars in thousands)*

	2022	2021	2020	2019	2018
Statutorily required contributions					
Employer	\$ 120,416	\$ 106,670	\$ 107,434	\$ 106,764	\$ 106,143
State					
Pre-65 health insurance premiums	56,312	55,061	54,034	53,707	58,535
SEEK 0.75%	23,507	23,156	23,157	22,675	22,424
Total state	79,819	78,217	77,191	76,382	80,959
Total	<u>\$ 200,235</u>	<u>\$ 184,887</u>	<u>\$ 184,625</u>	<u>\$ 183,146</u>	<u>\$ 187,102</u>
Actual contributions					
Employer	\$ 120,416	\$ 106,670	\$ 107,434	\$ 106,764	\$ 106,143
State	31,349	78,217	77,191	76,382	80,959
Total	<u>151,765</u>	<u>184,887</u>	<u>184,625</u>	<u>183,146</u>	<u>187,102</u>
Contribution deficiency (excess)	<u>\$ 48,470</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Percent of statutorily required contributed	75.8	100.0	100.0	100.0	100.0
Covered payroll	\$ 3,876,491	\$ 3,638,905	\$ 3,569,262	\$ 3,497,216	\$ 3,455,660
Actual contributions as a percentage of covered payroll	3.92	5.08	5.17	5.24	5.41
	2017	2016	2015	2014	2013
Shared responsibility contributions					
Employer	\$ 104,879	\$ 104,271	\$ 77,656	\$ 52,247	\$ 36,990
State					
Pre-65 health insurance premiums	53,454	52,542	46,233	84,600	106,500
SEEK 0.75%	22,043	21,825	21,375	20,841	23,086
Total state	75,497	74,367	67,608	105,441	129,586
Total	<u>\$ 180,376</u>	<u>\$ 178,638</u>	<u>\$ 145,264</u>	<u>\$ 157,688</u>	<u>\$ 166,576</u>
Actual contributions					
Employer	\$ 104,879	\$ 104,271	\$ 77,656	\$ 52,247	\$ 36,990
State	75,497	74,367	67,608	105,441	129,586
Total	<u>180,376</u>	<u>178,638</u>	<u>145,264</u>	<u>157,688</u>	<u>166,576</u>
Contribution deficiency (excess)	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>
Percent of shared responsibility contributed	100.0	100.0	100.0	100.0	100.0
Covered payroll	\$ 3,415,432	\$ 3,390,539	\$ 3,455,008	\$ 3,317,422	\$ 3,310,710
Actual contributions as a percentage of covered payroll	5.28	5.27	4.20	4.75	5.03

See accompanying independent auditor's report.

**Actuarial Methods and Assumptions**

The Health Insurance Trust is funded based on statutorily determined amounts as described in Note 8. The Schedule of Employer Contributions details the statutorily determined amounts for the Health Trust.

**Schedule of Investment Returns**

Percentage shown is annual money-weighted rate of return, net of investment expense.

2022	2021	2020	2019	2018	2017	2016	2015	2014
(9.7)%	31.1%	2.30%	6.11%	8.44%	14.4%	(2.20)%	1.38%	15.38%

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.  
See accompanying independent auditor's report.

**Life Insurance Trust**

**Schedule of Changes in the Net OPEB Liability**

*(In thousands)*

	2022	2021	2020
<b>Total OPEB liability</b>			
Service cost	\$ 943	\$ 1,289	\$ 1,299
Interest	8,337	8,926	8,563
Changes of benefit terms			
Difference between expected and actual experience	(4,123)	122	705
Changes of assumptions			
Benefit payments	(6,178)	(6,120)	(5,317)
<b>Net change in OPEB liability</b>	(1,021)	(1,575)	5,250
Total OPEB liability - beginning	120,505	122,080	116,830
Total OPEB liability - ending (a)	119,484	120,505	122,080
<b>Plan Net Position</b>			
Contributions - state	2,194	1,852	1,543
Contributions - other employers	561	286	253
Net investment income	(15,582)	24,075	5,167
Benefit payments	(6,178)	(6,120)	(5,317)
Administrative expense	(41)	(34)	(36)
<b>Net change in plan net position</b>	(19,046)	20,059	1,610
Plan net position - beginning	107,427	87,368	85,758
Plan net position - ending (b)	88,381	107,427	87,368
<b>Net OPEB liability - ending (a) - (b)</b>	\$ 31,103	\$ 13,078	\$ 34,712

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.  
See accompanying independent auditor's report.

**Schedule of Changes in the Net OPEB Liability**  
*(In thousands)*

	<b>2019</b>	<b>2018</b>	<b>2017</b>
<b>Total OPEB liability</b>			
Service cost	\$ 1,271	\$ 1,068	\$ 1,067
Interest	8,256	8,026	7,761
Changes of benefit terms			
Difference between expected and actual experience	(204)	(717)	
Changes of assumptions			
Benefit payments	(5,153)	(5,453)	(5,151)
<b>Net change in OPEB liability</b>	<b>4,170</b>	<b>2,924</b>	<b>3,677</b>
Total OPEB liability - beginning	112,660	109,736	106,059
Total OPEB liability - ending (a)	116,830	112,660	109,736
<b>Plan Net Position</b>			
Contributions - state	\$ 1,209	\$ 897	882
Contributions - other employers	212	161	168
Net investment income	5,058	1,111	915
Benefit payments	(5,153)	(5,453)	(5,151)
Administrative expense	(30)	(31)	(28)
<b>Net change in plan net position</b>	<b>1,296</b>	<b>(3,315)</b>	<b>(3,214)</b>
Plan net position - beginning	84,462	87,777	90,991
Plan net position - ending (b)	85,758	84,462	87,777
<b>Net OPEB liability - ending (a) - (b)</b>	<b>\$ 31,072</b>	<b>\$ 28,198</b>	<b>\$ 21,959</b>

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.  
 See accompanying independent auditor's report.

**Net OPEB Liability**

The net OPEB liability contained in the following schedule was provided by TRS's actuary, Cavanaugh Macdonald Consulting. The net OPEB liability is measured as the total OPEB liability less the amount of the fiduciary net position of the system.

**Changes of benefit terms.**

June 30, 2022 (Valuation Date: June 30, 2021)

- A new benefit tier was added for members joining the system on and after Jan. 1, 2022. A description of the benefit provisions applicable to these members can be found in Schedule B of this report.

**Changes of assumptions.** None

**Schedule of Investment Returns**

Percentage shown is annual money-weighted rate of return, net of investment expense.

<b>2022</b>	<b>2021</b>	<b>2020</b>	<b>2019</b>
(14.96)%	28.17%	6.32%	6.49%

TRS began separate reporting of its Life Insurance Trust effective February 1, 2018. Previously, it was reported as part of the pension fund's gross and net performance. This schedule will show more history of the trust as it becomes available.  
 See accompanying independent auditor's report.

**Schedule of Net OPEB Liability**  
*(Dollars in thousands)*

Valuation Year June 30	Total OPEB Liability	Plan Fiduciary Net Position	Net OPEB Liability	Plan Fiduciary	Covered Payroll	Net OPEB Liability as a % of Covered Payroll
				Net Position as a % of Total OPEB Liability		
2022	\$ 119,484	\$ 88,381	\$ 31,103	74.0	\$3,876,491	0.8
2021	120,505	107,427	13,078	89.2	3,638,905	0.4
2020	122,080	87,368	34,712	71.6	3,569,262	1.0
2019	116,830	85,758	31,072	73.4	3,497,216	0.9
2018	112,660	84,462	28,198	75.0	3,455,660	0.8
2017	109,736	87,777	21,959	80.0	3,415,432	0.6

Schedule is intended to show information for 10 years. Future years will be displayed as they become available.  
 See accompanying independent auditor's report.

**Schedule of Employer Contributions**  
*(Dollars in thousands)*

Valuation Year June 30	Actuarially Determined Employer Contribution	Contributions in Relation to the Actuarially Determined Contribution	Annual Contribution Deficiency/ (Excess)	Covered Payroll	Actual Contributions as a % of Covered Payroll
2021	2,252	2,138	114	3,638,905	0.06
2020	1,843	1,796	47	3,569,262	0.05
2019	1,082	1,421	(339)	3,497,216	0.04
2018	1,075	1,058	17	3,455,660	0.03
2017	1,065	1,050	15	3,415,432	0.03
2016	1,058	1,038	20	3,390,539	0.03
2015	1,050	1,020	30	3,455,008	0.03
2014	1,045	1,006	39	3,317,422	0.03
2013	1,740	1,680	60	3,310,710	0.05

See accompanying independent auditor's report.

**Actuarial Methods and Assumptions**

The actuarially determined contribution rates in the schedule of employer contributions are calculated as of June 30, 2018 valuation date. The following actuarial methods and assumptions were used to determine contribution rates reported in the most recent year of the schedule.

Actuarial cost method	Entry age normal
Amortization method	Level percentage of payroll
Amortization period	25 years, closed
Asset valuation method	5-year smoothed fair value
Inflation	3%
Real wage growth	0.5%
Wage inflation	3.5%
Salary increase	3.5 to 7.2%, including wage inflation
Discount rate	7.5%

See accompanying independent auditor's report.



## Additional Supporting Schedules

### Schedule of Administrative Expenses For the Year Ended June 30, 2022 and 2021

	<b>2022</b>	<b>2021</b>
Salaries	\$ 7,871,232	\$ 7,541,161
Other personnel costs	691,560	676,745
Professional services and contracts	621,380	579,040
Utilities	88,939	83,408
Rentals	16,899	14,921
Maintenance	99,552	48,014
Postage and related services	337,894	472,159
Printing	112,322	160,532
Insurance	195,498	192,530
Miscellaneous services	233,914	166,614
Telecommunications	25,430	22,821
Computer services	77,775	80,280
Supplies	24,421	28,762
Depreciation	2,181,001	2,001,370
Travel	8,418	1,421
Dues and subscriptions	116,794	107,273
Miscellaneous commodities	46,256	10,237
Office systems and equipment	890,111	2,039,399
Compensated absences	482,018	138,599
<b>Total</b>	<b>\$ 14,121,414</b>	<b>\$ 14,365,286</b>

See accompanying independent auditor's report.

**Schedule of Professional Services and Contracts  
For the Year Ended June 30, 2022 and 2021**

	Nature of Service	2022	2021
Cavanaugh Macdonald Consulting	Actuarial	\$ 282,964	\$ 286,275
Blue & Co.	Auditing	102,184	87,560
Crowe	Auditing		31,186
Ice Miller	Attorney	79,808	32,400
Reinhart Boerner VanDeuren	Attorney		563
Stoll Keenon and Ogden	Attorney	8,240	9,050
Attorney General	Attorney	344	156
Williams & Jensen	Attorney	26,250	29,850
Wilhoit Law Office	Attorney	225	
Wyatt, Tarrant & Combs	Attorney	19,365	
MulloyBorland	Communications	102,000	102,000
Total		<u>\$ 621,380</u>	<u>\$ 579,040</u>

See accompanying independent auditor's report.

**Schedule of Contracted Investment Management Expenses  
Year Ended June 30, 2022**

	Retirement Annuity Trust*	Health Insurance Trust	Life Insurance Trust	Total
Equity managers	\$ 21,571,603	\$ 834,290	\$ 39,454	\$ 22,445,346
Fixed income managers	653,519			653,519
Real estate	13,579,018	1,737,052	66,907	15,382,977
Additional categories	7,262,039	1,379,698	1,901	8,643,639
Alternative investments	15,754,621	1,980,745	58,462	17,793,829
Custodian	705,535	143,029	42,569	891,132
Consultant	468,850			468,850
Legal and research	102,691			102,691
Other (administrative and operational)	3,874,572	425,142	292,778	4,592,492
Total	<u>\$ 63,972,448</u>	<u>\$ 6,499,956</u>	<u>\$ 502,071</u>	<u>\$ 70,974,475</u>

\*Does not include expenses for the 403(b) Tax-Sheltered Trust and Losey Scholarship Fund.

See accompanying independent auditor's report.

**Schedule of Contracted Investment Management Expenses  
 Year Ended June 30, 2021**

	<b>Retirement Annuity Trust*</b>	<b>Health Insurance Trust</b>	<b>Life Insurance Trust</b>	<b>Total</b>
Equity managers	\$ 23,625,665	\$ 766,258	\$ 39,593	\$ 24,431,516
Fixed income managers	606,150			606,150
Real estate	12,011,558	1,453,479	33,155	13,498,192
Additional categories	8,970,813	1,548,543	8,584	10,527,940
Alternative investments	21,487,372	2,359,198	31,377	23,877,947
Custodian	657,867	174,753	56,300	888,920
Consultant	493,950			493,950
Legal and research	61,311			61,311
Other (administrative and operational)	3,398,086	336,859	212,997	3,947,942
<b>Total</b>	<b>\$ 71,312,772</b>	<b>\$ 6,639,090</b>	<b>\$ 382,006</b>	<b>\$ 78,333,868</b>

\*Does not include expenses for the 403(b) Tax-Sheltered Trust and Losey Scholarship Fund.  
 See accompanying independent auditor's report.



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**INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS***

To the Board of Trustees  
Kentucky Teachers Retirement System  
Frankfort, Kentucky

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Kentucky Teachers Retirement System, which comprise the statement of fiduciary net position as of June 30, 2022, and the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, which collectively comprise the Kentucky Teachers Retirement System's basic financial statements, and have issued our report thereon dated November 14, 2022.

***Internal Control over Financial Reporting***

In planning and performing our audit of the financial statements, we considered the Kentucky Teachers Retirement System's internal control over financial reporting (internal control) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Kentucky Teachers Retirement System's internal control. Accordingly, we do not express an opinion on the effectiveness of the Kentucky Teachers Retirement System's internal control.

A *deficiency* in internal control exists when the design or operation of a control does not allow management or employees in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over financial reporting that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control over financial reporting that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that have not been identified.

***Report on Compliance and Other Matters***

As part of obtaining reasonable assurance about whether the Kentucky Teachers Retirement System's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

***Purpose of this Report***

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Kentucky Teachers Retirement System's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Kentucky Teachers Retirement System's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

*Blue & Co., LLC*

Lexington, Kentucky  
November 14, 2022